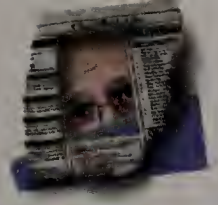
IT "help wanted" listings on hold
Economic downturn brings IT job market to screeching halt. **Page 16.**



Five steps to creating a "mobile office"
Canadian export agency adopts its orphaned mobile users. **Page 19.**

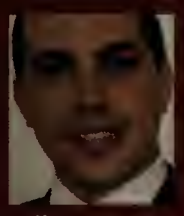
NETWORKWORLD

Maximize your return on IT ■ www.networkworld.com December 1, 2008 ■ Volume 25, Number 46

Alcatel-Lucent wants your enterprise network
Data center switch is part of 12-month product development splash. **Page 12.**

Symantec takes cybercrime snapshot
The online market for buying and selling stolen credit cards, pirated software is thriving. **Page 18.**

No one gets fired for banning IM



That weak argument is nothing to base security policy on, writes columnist Andreas Antonopoulos. **Page 18.**

Kentucky judge seizes control of Internet
But attempt to stop Internet gambling is a bad bet, says columnist Scott Bradner. **Page 23.**

IETF mulls DNS bug: Fix it now or let it be?

BY CAROLYN DUFFY MARSAN

MINNEAPOLIS — The Internet engineering community is grappling with what to do about a serious flaw in the DNS discovered this summer, and the ongoing debate brings to mind a famous quotation from Voltaire: "The perfect is the enemy of the good."

At issue is whether the group should use its resources to encourage DNS registries, ISPs and enterprises to upgrade to the ultimate DNS security solution known as DNSSEC, or whether it should tweak the DNS protocols to address the so-called Kaminsky bug as an interim step. The issue was recently debated at a meeting of the IETF, the Internet's leading standards body.

In July, security researcher Dan Kaminsky discovered a DNS bug that allows cache poisoning attacks, in which a hacker redirects traffic from a legitimate Web site to a fake one without the user knowing. With DNSSEC, the IETF already has a solution to the Kaminsky problem and other known DNS vulnerabilities. DNSSEC hasn't been widely

See IETF, page 14

NEWSPAPER ■ $5.00

11 Microsoft research projects

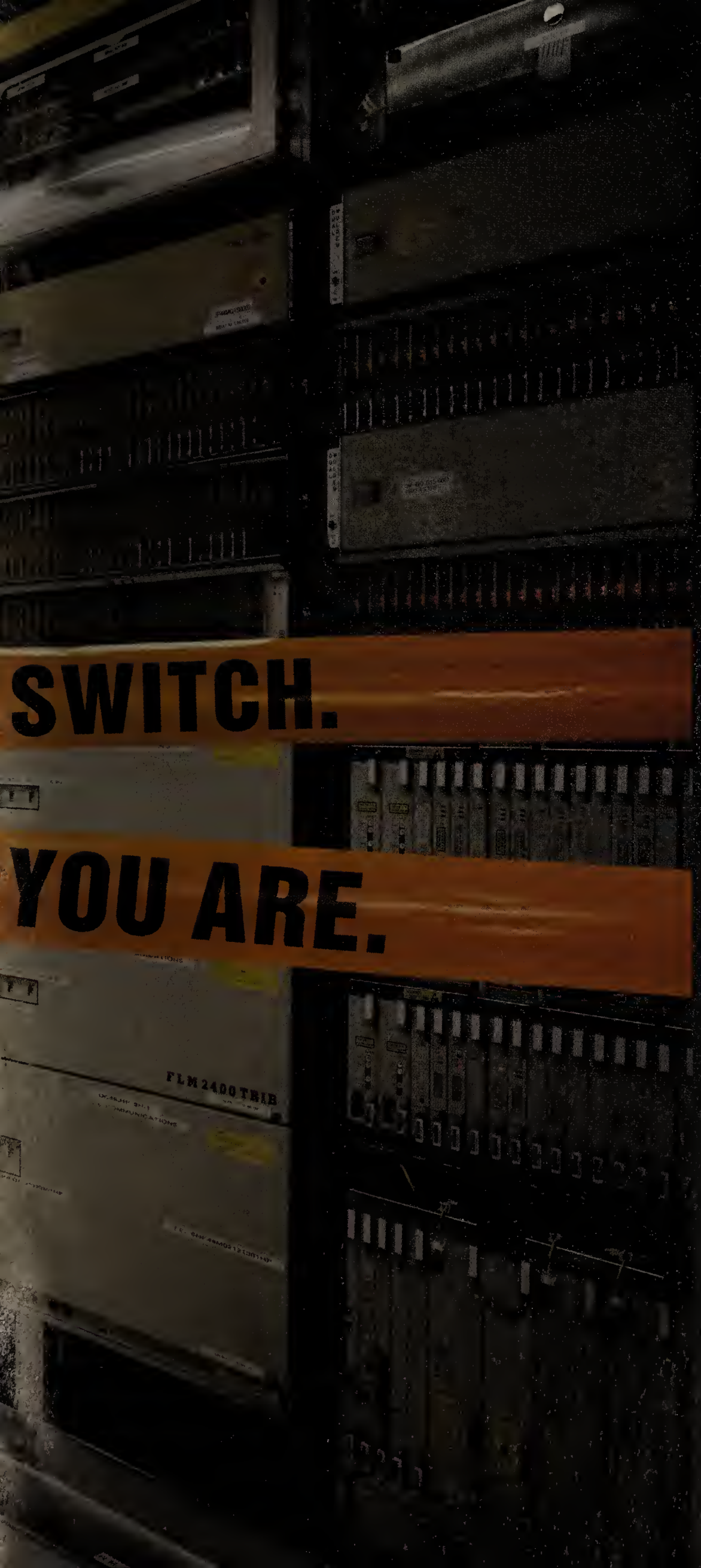
BY JOHN BRANDON

Innovation is not just about cool new products. In technology, the best ideas require really smart people and lots of funding. For the past 33 years, Microsoft has had both in spades.

In a recent two-day visit to Microsoft corporate headquarters, we met with researchers working on new projects focused on everything from disaster recovery to touch technology to robotic receptionists. A few of these already have resulted in shipping products and some could change how we do computing altogether.

Page 27.

DON'T SWITCH YOUR VoIP AS



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It's got built-in security? Really? A rock solid my-business-is-my-business smartphone? That's awesome. No wait... scratch that. It's awesome wrapped in cool and sugarcoated with amazingness. And if it gets lost, bwahaha- data can be removed remotely. Now that's security, Fort Knox-style.

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COOLTOOLS

■ **Hamilton Electronics' USB Transfer Express allows you to copy material from one drive to 15 others with a press of a button.**
See Cool Tools, page 26.

TECH UPDATE

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GOODBADUGLY

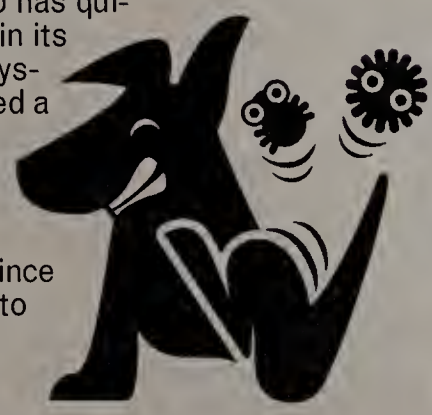
HP a financial bright spot

HP has reported a 19% jump in revenue for the October quarter, lifted by its EDS acquisition and strong sales of laptop computers and blade servers. Chairman and CEO Mark Hurd was upbeat about the results, saying HP's geographic reach and wide product portfolio are helping to shield it against the effects of the tough economy. But like his peers at other big tech companies, Hurd was cautious about the future.

Verizon stores stormed

While Verizon expected the BlackBerry Storm to be a hot-ticket item, it probably didn't anticipate that demand for the device would crash its online ordering portal on the day the smartphones became available. But on that Friday afternoon, Verizon stores were unable to process any more orders for the Storm, because high traffic apparently had overloaded the system with ordering requests.

Now that's a Sirius bug



Sirius XM Radio has quietly fixed a bug in its satellite radio system that provided a way for former subscribers to gain free access to the Sirius service since 2002, according to security vendor TippingPoint Technologies.

Would Cisco buy Riverbed?

Re: Predictions for the next few months, Riverbed and Nortel get purchased plus more (www.nwdocfinder.com/7731):

The Riverbed idea is an interesting one for Cisco, but it does break the Cisco acquisition cardinal rule: "Never buy a competitor." If Cisco were to entertain the purchase of Riverbed, then why not buy F5, Nortel, Brocade, Proxim, etc.

We have to remember that Cisco is still a software company that sells hardware. The bottom line is this: Riverbed is an interesting investment idea, but in the end Cisco will continue to modify its own compression solution and not start buying competitors.

George Morton

Discuss at www.nwdocfinder.com/7731

> "Riverbed is an interesting investment idea, but in the end Cisco will continue to modify its own compression solution and not start buying competitors."

Qualifications for a national IT czar

Re: The United States CTO needs to be a CIO (www.nwdocfinder.com/7733): While the idea of a national CTO or CIO is on the right track, I suggest it is too shortsighted.

The federal agencies of our nation operate today separate from a holistic set of strategic objectives that has been predetermined each year in part by the new incoming congress.

By selecting a CTO or CIO to improve oversight addresses only the supply chain perspective of all of the federal agencies working together.

The best solution is to organize a national governance team responsible for tactical oversight of all agencies progress aligned with strategic expectations. This would create unparalleled transparency and improved internal control. Results would lead to a significant reduction in redundant efforts and would save literally hundreds of millions of dollars.

Bottom line, a national governance team of C-levels managing holistically the oversight of agency work achievement would always ensure that the most throughput with the best results is always prioritized. Choosing only a national CTO or CIO is a half-step at best.

Steve Rollins

Discuss at www.nwdocfinder.com/7733

A tweety pie

Re: How Shaq and Buzzblog are alike — in which Paul McNamara declares his entrance onto Twitter (www.nwdocfinder.com/7732):

You're only beginning to realize how Twitter works. It's like the Ackerman function of blogging. Not only are you allowed to twitter about twittering (which is analogous to the also-acceptable blogging about blogging), you are encouraged, if not mandated, to twitter about having twittered your foray into twittering.

Given, that not counting that twittering as "writing about your joining" would be foolish.

Matthew Flaschen

Discuss at www.nwdocfinder.com/7732

Feeling SaaSy

Re: IT management software-as-a-service (www.nwdocfinder.com/7734):

It's good to see the discussion of SaaS being broadened. It is interesting to note that the majority of the movement in SaaS continues to be by companies that are focused on either the front or back office.

This is why it was interesting to see CA's recent announcements. The opportunity for SaaS in IT and operations management is huge as businesses have been hurt by massive enterprise software implementation failures and are generally fatigued by the lack of innovation that is taking place by the traditional vendors.

It is also important to remember that IT organizations have been using SaaS for years. Many businesses have been using on-demand (shared) hosting platforms for over 10 years now. It's only a matter of time before SaaS becomes the preferred method for managing most of IT.

Brian de Haaff

Discuss at www.nwdocfinder.com/7735

E-mail letters to jdix@nww.com or send them to John Dix, editor in chief, Network World, 492 Old Connecticut Path, Framingham, MA 01701-9002. Please include phone number and address for verification.

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BLOGOSPHERE

No one gets fired for banning IM. Andreas Antonopoulos writes in his Security: Risk and Reward blog: "At a recent IT Roadmap show — a travelling road show that brings *Network World* columnists "to life" — I met two security professionals who lamented their company's security policy choices. . . . One of the companies in questions (nameless of course) has chosen to ban all forms of instant messaging. This is a pet peeve of mine because our research shows that IM has a compelling ROI, both in hard dollars in areas such as sales, and even more so in soft productivity dollars. I am a firm believer in security that enables business risk where the risk brings a compelling ROI or competitive differentiation. After all, if we're not willing to accept some risk we should probably disconnect from the Internet and shut down the business. This argument is over IM but it is exactly the same argument that I had 15 years ago over "connecting to this Internet thing" at financial services firms. I'm guessing that in the earlier part of the previous century there was a security professional arguing against the use of 'this telephone device' that was in fashion among the younger generation." **www.nwdocfinder.com/7724**

Unified Ccmmunications from Microsoft, IBM, Cisco and others, case study and analysis. Alex Lewis writes in his Windows into Silicon Valley blog, "A lot has played out in the UC world over the last couple months and I think it's time to revisit the question of 'what is UC?' and dive a little deeper. In this series of posts I'll analyze what functional components make up a UC solution and examine offerings from IBM, Cisco, Microsoft and others. . . . I'll start by saying there are two sides to unified communications; well at least two. First is functional, i.e., what functions are included under the UC umbrella. The second is a business culture shift, i.e., changing the way you do business to take advantage of UC through communications enabled business processes (CEBP)." **www.nwdocfinder.com/7725**

Can crowdsourcing be used to monitor the Internet? The Alpha Doggs blog reports, "Northwestern University researchers have developed a system that gives a heads-up about traffic problems on the Internet, where there is no central management system. Their Network Early Warning System (NEWS), which latches on to a popular BitTorrent client, is designed to spot problems by encouraging feedback from end users who are experiencing problems." **www.nwdocfinder.com/7726**

INTERVIEWS, THE COOLEST TOOLS AND MORE

IT VIDEO

IPHONE APP O' THE WEEK

Google Earth

Fly around the globe with the iPhone edition of Google Earth.

www.nwdocfinder.com/7737

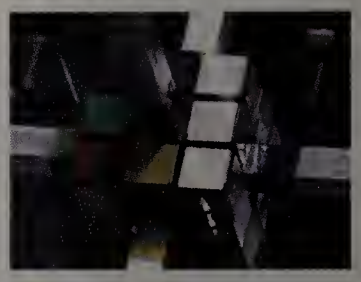
COOL TOOLS:

Not quite the perfect Storm

RIM's much-anticipated BlackBerry Storm has arrived, but can it top the well-known touch-screen leader? Keith Shaw gives the lowdown.

www.nwdocfinder.com/7738

IDG NEWS WIRE:



Robot solves Rubik's Cube

At the RoboDevelopment Conference, a UC Berkeley alumnus showed off a robot designed to solve one of the great mysteries of mankind: the Rubik's Cube.

www.nwdocfinder.com/7739

BEST OF NWW'S

NEWSLETTERS

DMTF is an unsung hero for management standards

Tech Exec: The Distributed Management Task Force (DMTF) is the unsung hero of the enterprise computing environment. Without the groundbreaking work of the DMTF, it would be much harder — and way more expensive — to have a heterogeneous collection of PCs, servers and storage devices. The DMTF is the global industry organization that leads the development, adoption and promotion of management standards and interoperable systems management. The DMTF has been around since 1992. One of its earliest accomplishments was the industry's first desktop management standard, called the Desktop Management Interface, or DMI, which gave component vendors a consistent and nonproprietary way to make their products manageable. Previously, the information from a computer's BIOS and system components was not standardized, meaning products from different vendors — and often different products or brands from the same vendor — had to be managed separately. Since then, the DMTF has built on its successes with worldwide support from more than 3,500 participants who are actively involved in developing and advocating even more interoperable management initiatives and standards. This leads to end-to-end management solutions that make your job a lot easier.
www.nwdocfinder.com/7721

Network management: Let's face facts. Enterprise-level management software deservedly earned a reputation of being difficult to deploy and challenging to maintain in the 1990s; and despite vendors' best efforts, little has happened to change that perception. Until recently, that is. A handful of start-ups such as Service-now.com, SmartPath and Hypersoft have emerged to provide service and asset management technology via subscription services. Now leading management software makers are realizing if they remove the barriers to adopting their technologies perhaps they can land new customers and manage more systems by hosting their own applications and charging for use via subscriptions. According to a recent report from Forrester Research, software-as-a-service (SaaS) offerings made up just more than 1% of the $18 billion IT management software market in 2008. The analyst firm expects that number to grow to closer to 10% by 2013.
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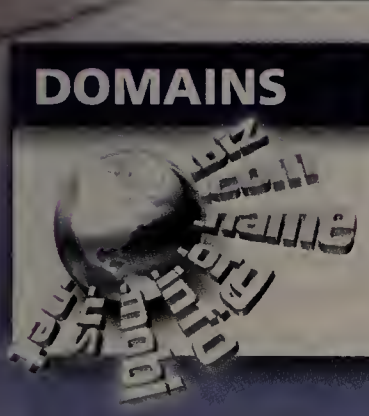

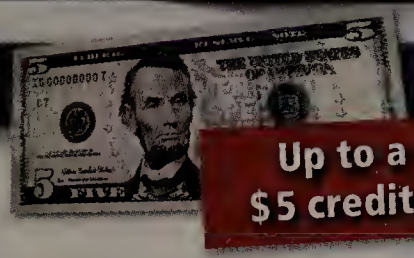

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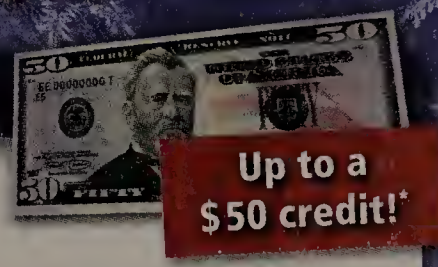

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Cisco shutting down between holidays

For the first time in its history, Cisco will be shutting down during the year-end holiday season to save money. The company plans to close for four days as part of its plan to reduce expenses by more than $1 billion in fiscal 2009, which was disclosed during its Nov. 5 earnings call. Cisco is looking to shave that amount from expenses in an effort to meet its internal budget during times of economic strife. "Cisco will be targeting reductions in travel and discretionary-related expenses," a Cisco spokesman stated in an e-mail to *Network World*. "As part of this effort, Cisco will implement a mandatory year-end shutdown of the U.S.-Canada theater from Dec. 29, 2008, through Jan. 2, 2009, with some exceptions for targeted business-critical teams including technical assistance services and channel partner and customer product ordering services." **www.nwdocfinder.com/7740**

Fedora 10 out, packed with improvements. The Red Hat-sponsored Fedora Project last week released Fedora 10, the latest version of the free, Linux-based operating system, with a wide range of improvements in such areas as virtualization management, networking, boot time and security. The new virtualization features include the ability to manage virtual hosts and storage remotely, which should appeal to network administrators with fragmented teams. Users also can share their Internet connection with others, and Fedora 10 can start up faster, because of a new graphical boot system dubbed Plymouth. Security improvements include the addition of SecTool, an auditing and detection kit. The release also bundles in OpenOffice 3.0, the most recent edition of the open source productivity suite.
www.nwdocfinder.com/7741

IBM working on Web-based collaboration platform. IBM is working on a platform for collaborative mashups that needs little more than a browser and a server to create a shared environment that includes audio and videoconferencing. Called Project Blue Spruce, the software supports an environment for pulling together data, tools and widgets from around the Web to assemble the elements needed for business meetings. Blue Spruce differs from other Web collaboration platforms and services such as WebEx in that the others download centrally assembled pages. With Blue Spruce, each machine involved in a collaboration downloads the elements required to make up the page from the nearest Internet source. This means individuals experience faster page builds than they would if the content was assembled centrally and downloaded from a single source, especially if participants are widely dispersed around the world, says David Boloker, IBM CTO of emerging Internet technologies.
www.nwdocfinder.com/7742

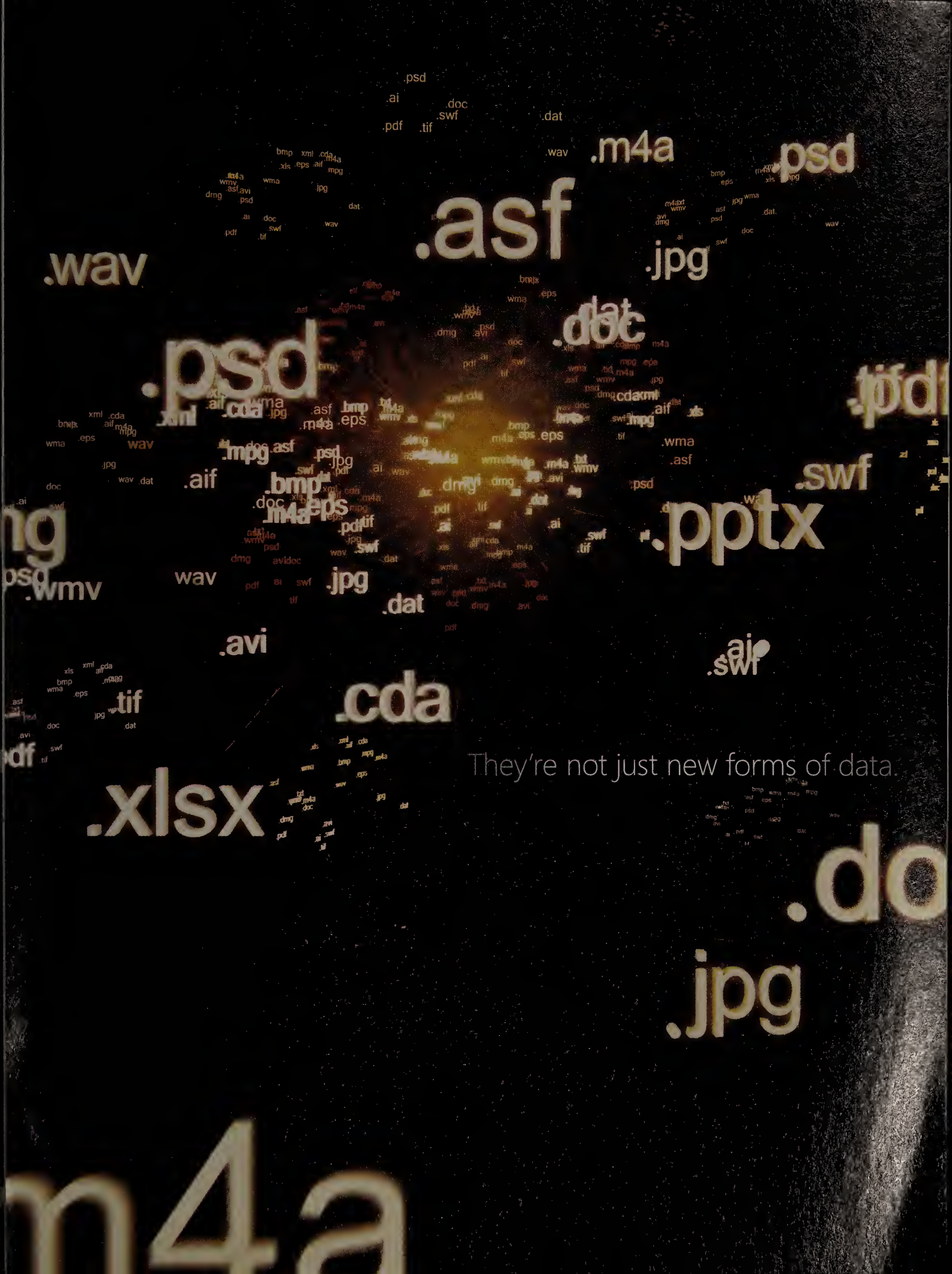
Mobile sales to beat economic gloom. Revenue from wireless services will experience strong growth over the next year despite widespread economic gloom, predicts telecom and IT research firm Ovum. According to

Ovum's latest projections, mobile connections and revenue will grow by an estimated 6.3% in 2009 compared with 2008. The firm predicts that the mobile market in Canada will see even stronger growth in 2009: There, mobile connections are expected to grow by 7.5% and mobile revenue is expected to grow by 11.3%. The major driver of the continued growth in the North American mobile market is the fact that North American countries have relatively low rates of mobile penetration, with the United States (85%) and Canada (60%) trailing behind several countries in East Asia and Western Europe, Ovum says. Another mobile-revenue driver is growth in mobile data services. With more carriers subsidizing such smartphones as the iPhone and the BlackBerry Storm, Ovum projects that mobile data revenues will see continued strong growth throughout 2009.
www.nwdocfinder.com/7743

Spammers regaining control over Srizbi botnet. The zombie computers used to send spam are coming back to life. Security vendors say spammers are reconnecting with hacked PCs, as evidenced by a rising number of spam messages circulating on the Internet last week. Spam levels suddenly dropped three weeks ago after the shutdown of McColo, a rogue ISP whose connectivity was used to control networks of hundreds of thousands of computers to send spam. Computers that are part of the Srizbi botnet — which by some estimates sent nearly half of the world's spam — were controlled by spammers via McColo's network. When McColo was shut down, those computers tried to call back and get new instructions to send spam. But the botnet operators created a way to get those machines back if they were stranded. "Srizbi has returned from the dead and has begun updating all its bots with a fresh, new binary," according to a blog post by Atif Mushtaq and Alex Lanstein of security vendor FireEye.
www.nwdocfinder.com/7744

Apple sued over iPhone's Safari Web browser. Just weeks after being issued a Web-navigation patent, a Texas company is using it to sue Apple, charging that the mobile Safari browser on the iPhone infringes the patent. The suit was filed last week by EMG Technology in the U.S. District Court for the Eastern District of Texas, and seeks unspecified damages from Apple. It charges that Safari infringes on U.S. Patent No. 7,441,196, issued by the U.S. Patent Office on Oct. 21. A statement by the law firm representing EMG says the patent covers the "display of Internet content reformatted from HTML to XML on mobile devices," a description that applies to the iPhone. Other patent claims cover "technology for manipulating a region of the screen for zooming and scrolling." One of the patent's named inventors is EMG Managing Member Elliot Gottfurcht, described as an inventor and Los Angeles real estate developer.
www.nwdocfinder.com/7745

Lenovo service disables laptops with text message. There is a new way to remotely shut down a laptop if it is lost — just text it. Lenovo last week announced the Constant Secure Remote Disable service, which lets users remotely disable a PC by sending a text message from a specified cell phone number. Each laptop can be paired with as many as 10 cell phones, and the service works over wireless networks that support the Short Message Service standard. Users receive a confirmation text message that validates the disabling of a PC. The system targets consumers who are worried about their laptops being stolen. For business users it enforces compliance issues, because users get a receipt back ensuring their laptop is safe. To reactivate a disabled PC, a user needs to enter the pre-set passcode after the notebook is restarted. The software will be available free from Lenovo's Web site.
www.nwdocfinder.com/7746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They're not just new forms of data.
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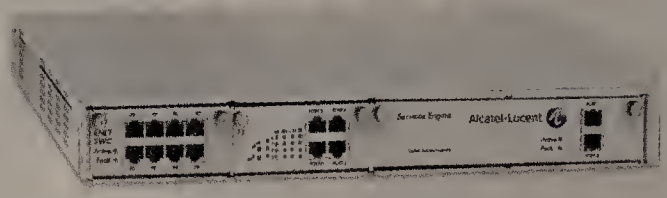
Alcatel-Lucent pushing new enterprise wares

BY JIM DUFFY

Alcatel-Lucent last week was expected to unveil a range of enhancements to its large enterprise product portfolio, including an upgraded data center switch and IP telephony extensions.

The enhancements are designed to help Alcatel-Lucent customers tackle projects such as data virtualization, unified communications and application and business process integration. The company says these objectives are in keeping with its "dynamic enterprise" vision of aligning networks, people, processes and knowledge to simplify communications and improve performance.



Alcatel-Lucent's OmniAccess 5510 branch-office router integrates network services, voice call processing, WAN connectivity, VPN tunnel encryption and management, and intrusion detection and prevention.

It appears to be sticking. Alcatel-Lucent says it has signed on 5,000 new customers over the past two years, and that despite the current economic challenges and forecasts of lower IT spending globally, contract sizes in the first half of 2008 have increased in the $1 million to $10 million-plus range.

Alcatel-Lucent is looking to win more accounts like its showcase University of Pittsburgh Medical Center deal. That's valued at more than $300 million over 10 years. But the company is still challenged when it comes to gaining market share — it has been relatively flat at 1.2% of the $18 billion global Ethernet switching market for the past three years, according to Dell'Oro Group.

Perhaps the new OmniSwitch 9000E will catalyze that. The 9000E is an end-of-row data center switch featuring multivirtual routing and forwarding, which allows it to partition different virtual routing instances or domains within the switch. This is designed to reduce costs and power consumption by dividing a single routing switch into multiple, discrete routers serving different applications or workgroups.

The 10- and 18-slot 9000Es have the same 192G to 1.92Tbps switching and backplane capacity, and density, as Alcatel-Lucent's existing 10- and 18-slot OmniSwitch 9000 switches. The key difference, aside from the virtual routing, is that the 9000E features in-service software upgrades, higher-capacity buffers/queues, wire speed interfaces and higher availability.

New branch-office router

Also on tap from Alcatel-Lucent is a new branch-office router called the OmniAccess 5510. The 5510 serves as a unified services gateway that integrates network services, voice call processing, WAN connectivity, VPN tunnel encryption and management, and intrusion detection and prevention. It's available in a range of fixed configurations that provide WAN connectivity at up to one T-1/E-1, asymmetrical DSL, serial or SFP interface, Alcatel-Lucent says. Each model sports four 10/100Mbps LAN ports and an integrated 10/100Mbps Ethernet WAN port, the company says.

For routing, the 5510 supports RIP v1/v2 and Open Shortest Path First/Border Gateway Protocol dynamic routing, PIM-based multicast routing, IGMP, GRE tunnels, Virtual Router Redundancy Protocol, policy-based routing, and 32 VRF instances per system.

Alcatel-Lucent also will roll out a new release of its OmniPCX Enterprise IP PBX software. Release 9.0 supports up to 100,000 users and features Session Initiation Protocol controller and trunking enhancements that allow adoption of new unified communications applications and SIP device management, Alcatel-Lucent says.

The company also upgraded its OmniTouch 8600 My Instant Communicator unified messaging and communications client. New software for the client, Release 5.1, offers support for third-party applications such as Microsoft Office Communicator and IBM Sametime 8.0 and Lotus Notes.

For contact centers, Alcatel-Lucent unveiled Release 9.0 of OmniTouch Contact Center Premium (10 to 150 agents) and Standard editions (up to 10 agents). The new software improves agent access to back-office expertise through the system's interactive voice response and text-to-speech capabilities, with multimedia information disseminated by voice, fax or e-mail. It supports the Genesys Voice Platform 8, which acts as an integrated platform for voice applications. (Genesys is an Alcatel-Lucent company.)

Pricing for the OmniSwitch 9000E starts at $15,000. Licensing of My Instant Communicator starts at $190 per seat when acquired stand-alone or $140 per seat when acquired in a package. ■

InBrief

New IBM services offer cloud setup, 'validation'

IBM launched a new set of cloud computing consulting and implementation services last week, framing the move as something that could spark wider adoption of the model. While cloud computing has gained a huge amount of attention in recent years, questions linger around issues such as security and reliability, compared with traditional on-premises infrastructure. IBM intends to dispel those concerns with industry-specific consulting services for assessing the total cost of ownership of cloud computing, as well as for designing and implementing cloud operations. The company is also starting a companywide effort aimed at hardening cloud security.

40G market gaining steam

The 40Gbps market is moving into general deployment phase caused by the stress of video traffic on network capacities, according to research firm Ovum. Global revenue for 40G line cards in 2007 was $178 million and Ovum expects the market to grow 48% annually through 2013, to almost $2 billion. More than 30 network operators have spent more than $250 million since 2005 deploying the technology globally, Ovum says. The largest 40G application by volume thus far is for router-to-router interconnect, and Comcast and AT&T have the largest commercial deployments. Government-funded defense and research networks also have contributed significantly to revenues, the firm notes. But prices still have to come down before the market moves to mass adoption, the firm says.

Ballmer ordered to testify in 'Vista capable' case

A federal judge in Seattle has ordered Microsoft CEO Steve Ballmer to testify in a class action lawsuit that alleges the company misled consumers in a marketing campaign for its Windows Vista operating system in which computers sold with an older Microsoft operating system were labeled "Vista Capable" when they could only run a basic version of Vista. Ballmer has unique knowledge of facts in the case, therefore he must face questioning, Judge Marsha Pechman ruled, according to court documents. The case against Microsoft was launched early last year. The plaintiffs allege that most computers labeled "Vista Capable" in the marketing campaign, which began in early 2006, cannot run or run poorly Vista Premium, the version with the most popular features.

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IETF

continued from page 1

deployed, however, although it has been under development for more than a decade.

DNSSEC prevents hackers from hijacking Web traffic and redirecting it to bogus sites. The Internet standard prevents spoofing attacks by allowing Web sites to verify their domain names and corresponding IP addresses using digital signatures and public-key encryption.

The problem is that DNSSEC prevents Kaminsky attacks only when it is fully deployed across the Internet — from the DNS root zone at the top of the DNS hierarchy down to individual top-level domains, such as .com and .net. Until then, Web sites remain vulnerable to Kaminsky-style attacks.

That's why some IETF participants are urging immediate action to address the Kaminsky bug, while others are hoping to use the publicity surrounding the discovery of the Kaminsky bug to promote DNSSEC deployment. "The open question is whether there are other measures we can take as operators of the DNS to improve forgery resilience, or are there changes to the DNS protocols that we should be making that are an interim step that aren't all the way to DNSSEC," explains Andrew Sullivan, co-chair of the IETF's DNS Extensions working group, which is discussing the matter. The working group is split on which direction to take. "We can't tell yet which way it will go," says Olafur Gudmundsson, the other co-chair of the group.

In recent weeks, IETF participants have submitted five documents to the DNS Extensions working group with proposed changes to DNS that would prevent Kaminsky-style attacks. "We've been trying to condense the proposals down to the working group to show what each of the changes would be, how they would help the situation, what the operational costs would be and what would break as a result of the changes," Gudmundsson says. "It's too early to tell if the group is going to coalesce around one of these proposals."

One option is for the IETF to do nothing about the Kaminsky bug. Some DNS Extensions participants in the Minneapolis meeting referred to all of the proposals as a "hack" of the DNS and argued against spending time and energy developing one of them into an Internet standard because it could delay DNSSEC deployment.

Other participants said it is irresponsible for the IETF to do nothing about the Kaminsky bug because large sections of the DNS will never deploy DNSSEC. "We can do the hack and it might work in the short term, but when DNSSEC gets widely used, we'll still be stuck with the hack," said IETF participant Scott Rose, a DNSSEC expert with the U.S. National Institute for Standards and Technology (NIST). "Personally, I'd like to see DNSSEC deployed because I think it's the best solution. But there are going to be places on the Internet that aren't going to do DNSSEC, and I think maybe we should look at an interim solution for [them.]"

Several IETF participants said the threat of Kaminsky-style attacks is real. A representative from Comcast said the ISP has seen "large numbers of cache poisoning attacks" attempted since August. NIST also has seen hackers try to exploit the Kaminsky bug. "People are trying the Kaminsky attack. They're trying to find recursive servers that can be poisoned. We think they are trying to get a list of these servers and sell them," Rose said.

IETF participants pointed out that DNS software packages from the Berkeley Internet Name Domain, Nominum, Microsoft and NLnet Labs have added patches for the Kaminsky bug, and 75% of DNS servers have been upgraded to thwart Kaminsky-style attacks. The IETF also is finishing up a best-practices document that outlines ways for DNS server operators to protect against spoofing attacks like those that exploit the Kaminsky bug.

The co-chairs of the DNS Extensions working group said they hope to make a decision on whether to change the DNS protocols in light of the Kaminsky bug before the group's next meeting, which will be held in San Francisco in March. "There's been an awful lot of urgency to the matter. We want to avoid creating a long-term problem that is caused by a hasty decision," Sullivan said. "There are big reasons to be careful here. The DNS is a really old protocol, and it is fundamental to the Internet. We're not talking about patching software. We're talking about patching a protocol. We want to make sure that whatever we do doesn't break the Internet." ■

Experts to feds: Sign the DNS root ASAP

Internet security gurus and vendors are urging the U.S. government to rapidly deploy security and authentication mechanisms at the DNS hierarchy's top level, known as the root zone.

In recent weeks, the National Telecommunications and Information Administration (NTIA) has received more than 30 comments in favor of securing DNS root-zone data.

These comments are from the Internet Architecture Board and the Internet Society, as well as from ISPs and domain name operators, such as PayPal, Akamai Technologies, NeuStar, Comcast and Afilias.

The "rapid adoption of DNSSEC and signing of the root zone is an urgent requirement," wrote Michael Barrett, CISO with PayPal. "We applaud NTIA for initiating this inquiry, and urge it to move with all possible speed to implement DNSSEC. Inaction or further delay would be detrimental to the interest of consumers and other Internet users and to the healthy growth of electronic commerce."

"Comcast is strongly in favor of the global adoption of DNSSEC, starting with the signing of the root," said a letter from Kathryn Zachem, that company's vice president of regulatory and state legislative affairs, and Jason Livingood, its executive director of Internet systems engineering. "Until the root is signed, signatures for a top-level domain such as .net or .com, and signatures in domains like Comcast.net are of limited utility."

The majority of the comments received by NTIA recommend deploying DNSSEC across the root zone, but many of them prefer that this be done by the nonprofit Internet Corporation for Assigned Names and Numbers (ICANN) rather than a for-profit corporation, such as VeriSign, which operates root servers A and J.

The NTIA also received letters discouraging DNSSEC deployment from two lesser-known organizations — Public-Root Consortium and AV8 Internet.

The DNS root zone is deployed on 13 server clusters worldwide. These servers are operated by such U.S. agencies as the Defense Department and NASA, corporations including VeriSign and Cogent Communications, and universities including the University of Southern California and the University of Maryland, under the direction of the Internet Assigned Numbers Authority. The root servers make it possible for top-level domains, including .com, .net and .org, to match domain names with corresponding IP addresses and Web sites.

DNSSEC is viewed as the best way to bolster the DNS against such vulnerabilities as the Kaminsky bug discovered this summer. It's because of threats like these that the U.S. government is rolling out DNSSEC across its .gov and .mil domains.

The U.S. government issued a request for public comments about DNSSEC deployment on the root zone on Oct. 9.

— CAROLYN DUFFY MARSAN

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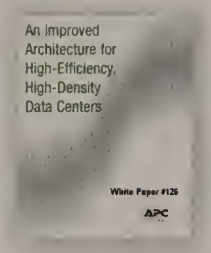

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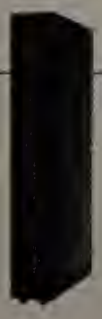

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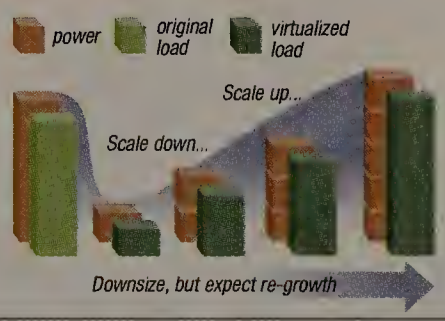

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NEWS ANALYSIS

IT 'help wanted' listings on hold

BY DENISE DUBIE

IT professionals looking for work should expect the number of open positions to decline in coming months as those employed in high-tech brace themselves for budget cuts, possible pay cuts and layoffs.

Despite statistics from earlier this year pointing to job growth across technology sectors, the economic unrest that started in late September has many IT industry-watchers forecasting a slowdown in high-tech job creation through the early part of next year. The big layoffs announced recently by such tech companies as Sun and Nokia don't bode well for the IT job market, but neither do huge workforce cutbacks at such companies as Citigroup that have big IT staffs.

According to career Web site Beyond.com, IT experienced the largest percentage decrease in jobs during the third quarter with little more than 1% growth, causing IT to fall from the site's top industry position for the first time in six quarters. Now ranked in the second slot, IT positions represent 12.9% of all positions posted on the career site. For instance, the number of Web-developer jobs decreased by nearly 15%, open positions for database administrators fell by 12%, and jobs slotted for system

See Jobs, page 36

IT job growth hits the wall

IT positions with the largest percentage decrease in jobs from Q2 to Q3 2008, according to Beyond.com:

IT position	Decrease in jobs
Web developer	-14.48%
Database administrator	-11.99%
System engineer	-11.41%
System administrator	-7.63%
Analyst	-7.62%
Project manager	-2.92%
Business analyst	-1.67%

Number of tech jobs posted on Dice.com by major metropolitan area:

Metro area	Oct. 1	Nov. 3	Decline
Washington D.C. /Baltimore	8,424	8,233	2%
New York	9,241	8,080	12%
Silicon Valley	5,072	4,486	12%
Chicago	3,936	3,497	11%
Los Angeles	3,789	3,452	9%
Boston	3,800	3,372	11%
Dallas	2,869	2,630	8%
Philadelphia	2,933	2,498	15%
Atlanta	2,596	2,273	12%
Seattle	2,377	2,072	12%

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Symantec's cybercrime snapshot

Keystroke loggers going for just $23

BY ELLEN MESSMER

The criminal market online for buying and selling stolen credit cards, pirated software and information about financial accounts is thriving, according to a report published Monday by Symantec.

The "Underground Economy" report contains a snapshot of online criminal activity observed from July 2007 to June 2008 by a Symantec team monitoring activities in Internet Relay Chat (IRC) and Web-based forums where stolen goods are advertised. Symantec estimates the total value of the goods advertised on what it calls "underground servers" was about $276 million, with credit-card information accounting for 59% of the total.

If that purloined information were successfully exploited, it probably would bring the buyers about $5 billion, according to the report — just a drop in the bucket, points out David Cowings, senior manager of operations at Symantec Security Response.

"Ninety-eight percent of the underground-economy servers have life spans of less than 6 months," Cowings says. "The smallest IRC server we saw had five channels and 40 users. The largest IRC server network had 28,000 channels and 90,000 users."

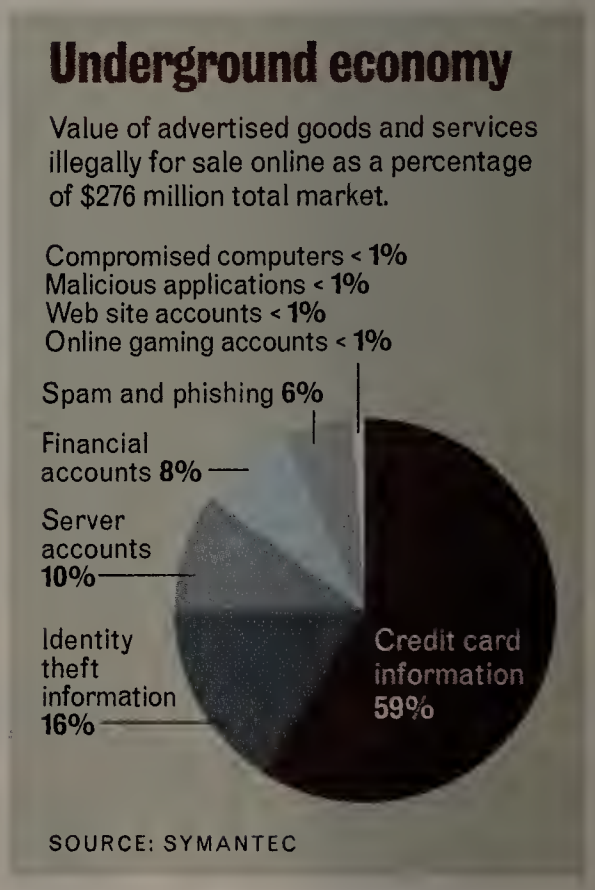
In the one year covered by the report, Symantec's team observed more than 69,000 distinct advertisers and 44 million total messages online selling illicit credit-card and financial data, but the 10 most active advertisers appeared to account for 11% of the total messages posted and $575,000 in sales.

Symantec's team spent the year primarily in the more accessible underground servers rather than in the tightly restricted ones that require authenticated access, Cowings says. The report cites North America as hosting 46% of the underground servers Symantec observed for the year, with the remainder primarily in Europe, the Middle East and Africa.

The hustle and bustle of trading in stolen goods thrived, with individuals using such names as "Spookie," "Luna" and "Shadow" — people who sometimes bartered with each other. According to the report, a bank-account credential was selling for $10 to $1,000, depending on the balance and location of the account. Sellers also hawked specific financial sites' vulnerabilities for an average price of $740, though prices did go as high as $2,999.

In other spots, the average price for a keystroke logger — malware used to capture a victim's information — was an affordable $23. Attack tools, such as botnets, sold for an average of $225. "For $10, you could host a phishing site on someone's server or compromised Web site," Cowings says.

Desktop computer games appeared to be the most-pirated software, accounting for 49% of all file instances that Symantec observed. The second-highest category was utility applications. ■



No one gets fired for banning IM

RISK & REWARD
Andreas Antonopoulos

At a recent IT Roadmap — a traveling road show that brings *Network World* columnists "to life" — I met two security professionals who lamented their company's security policy choices. I know that discussing a policy at a show won't change it, but it's therapeutic to commiserate about poor policy decisions. Of course, I have only part of the picture, so it's unfair to judge those policy choices. In this particular instance, I go for therapeutic and interesting over fair.

The company in question (nameless, of course) has chosen to ban all forms of instant messaging. This is a pet peeve of mine because our research shows that IM has a compelling return on investment, in hard dollars in such areas as sales, and even more so in soft, productivity dollars. I am a firm believer in security that enables business risk when the risk brings a compelling ROI or competitive differentiation. After all, if we're not willing to accept some risk, we probably should disconnect from the Internet and shut down the business. Although this argument is over IM, it is the same argument I had 15 years ago over "connecting to this Internet thing" at financial services firms. I'm guessing that in the earlier part of the previous century, there was a security professional arguing against the use of "this telephone thing" that was in fashion among the younger generation.

Regardless of the relative merits or risk of using IM in a business setting, this same company has every user run Windows as an administrator, to support some legacy application. Not only is it a supremely bad idea to run Windows as an administrator, it also makes it almost impossible not to ban IM as a follow-up decision: If you set your policy to trust users as admins, you can't trust them to run any code — this truly boggles the mind.

It reminds me of this documentary video from the 1970s showing anti-nuclear protesters outside a nuclear power plant. They're all chanting, "Nuclear power kills!" Every second chant, most of the protesters stop to take a deep drag from their cigarettes. Thirty-five years later, would anyone want to bet as to how many of those protesters died from nuclear power vs. from smoking? Perhaps when modeling risk in society, we have to consider smoking as more dangerous than nuclear power.

In a business you must make risk decisions with a comprehensive and self-consistent model. You can't optimize risk locally — because of the "weakest link" characteristic of security. This is exactly why I rant about security policies like this. They represent the "no one got fired for banning IM" brand of weak reasoning that allows some security people to drop the consequences of risk-avoidance on business productivity and competitiveness, while making the "safe" choice.

Antonopoulos is a senior vice president and founding partner at Nemertes Research, an independent technology research firm. He can be reached at andreas@nemertes.com.

How to create a 'mobile desktop'

5 steps taken by a Canadian agency to adopt its orphaned mobile users

BY JOHN COX

Export Development Canada, the country's export credit agency, had about 150 "orphans" on its payroll.

These included account managers, financial advisors and accountants who traveled extensively in Canada and around the world, often spending 50% or more of their time working on-site with clients to arrange financing, insurance, bonds and letters of guarantee. Once they stepped outside of the agency's Ottawa, Ontario, headquarters, however, they were largely cut off from its enterprise network and the network-based resources essential to their work.

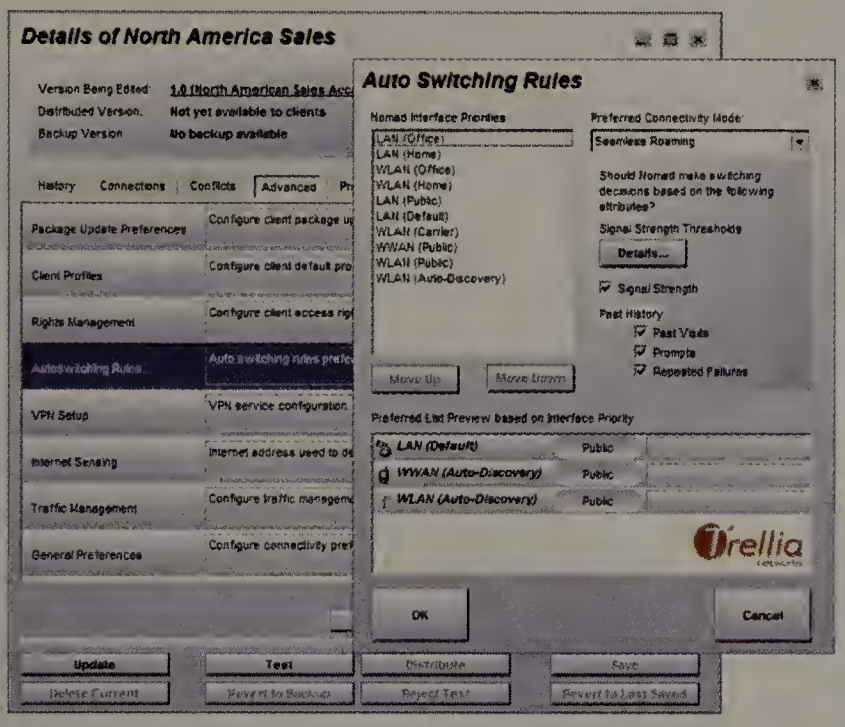
"We did a situation analysis and found that the dependence on remote and mobile connectivity was the weak link," says Dave McNulty, the agency's telecommunications and desktop services manager. "We didn't have wireless enabled on mobile devices, for example, even though some of the laptops might have it. We needed more connectivity."

Also needed were more robust and productive client hardware and software. Most of the employees were set up with a typical networked desktop PC at headquarters or a regional office. Some were assigned a laptop, and some had access to loaner laptops. None of them had anything like the access and tools available on their desktop PCs, however.

EDC decided to create a true mobile office for these workers; and give them the hardware, software and connectivity via multiple network interfaces to link to their work on the road and at client sites with enterprise-based applications and data.

Almost a quarter of the agency's 1,100 employees are mobile, many of them spending more than half of their time outside of an office. Of these, 165 have been outfitted with the new mobile office platform.

EDC did it via a five-step process, which started in the fall of 2007. The first stage of the actual deployment began March 17, 2008, and was completed three months later. Here are the steps EDC took:



EDC's new "mobile desktop" platform uses Trellia's Mobility Platform to configure, manage and secure all of a mobile user's network connections automatically. Here, an administrator is using the Trellia Policy Manager to set up the rules for network access priorities for a user in the North American Sales department: The software will seek a wireless WAN (cellular) connection, if a LAN connection is lacking for the notebook PC.

Step 1 — Create a cross-disciplinary team and give it project ownership.

McNulty pulled technology experts from various areas of the agency, and gave this task force responsibility and authority to make the mobile office a reality. Most task-force members knew each other and had worked together for years. Some specialists were brought in as needed. The task-force's areas included IT infrastructure, database services, applications, the client service center, and the learning and development department.

One of the team's first actions was to commandeer a meeting room as home base. "It had a very anchoring effect, and we jelled very quickly," says Craig Doyle, EDC's senior network analyst and the team's technical lead. "Most of these folks operated behind the scenes. But this project was different. We were creating a high-visibility mobile office that would be right in the clients' hands. That really fired them up."

The team quickly identified a number of independent projects that were, without coordination, tackling various parts of the mobility problem. These included the planned corporate desktop-PC refresh, a project to support teleworkers, and a pandemic-preparation plan to enable staff to work remotely in case of an outbreak similar to the 2003 severe acute respiratory-syndrome (SARS) crisis in Toronto. The team used elements of these projects.

Step 2 — Know what you want to accomplish.

The key criterion was that laptops, and their users, were no longer to be treated as "orphans of the enterprise network," having a subset of the features available to desktop users, Doyle says. Instead, they were to become extensions of the enterprise, with the necessary applications, connectivity, management tools, remote control and security.

The intent was to take advantage of the familiarity of the desktop PC experience, McNulty says. Instead of relying on Microsoft Outlook Web Access for browser-based e-mail access, the mobile office would use the full, laptop-based Microsoft Office Outlook 2007 client. With the latter, users connected to EDC had full access to all Outlook functions and services for e-mail, contacts, calendars and tasks, including EDC's own RSS feeds. Disconnected, they still could be productive working with downloaded e-mail messages and the like, McNulty says. Office Outlook 2007 also enables future integration with Microsoft Office Communications Server for instant messaging, video conferencing and online presence.

Similarly, the mobile-office team planned to replace Web-based access with direct access to files and folders on corporate drives.

Finally, EDC deployed Citrix Presentation Server (since rebranded as Citrix XenApp and positioned as a virtualization product line). The software lets EDC's mobile employees work directly with server and desktop applications on the enterprise network.

Step 3 — Figure out what kind of wireless connectivity users need and how you'll manage it.

The mobile office team decided on a range of wireless options, that will be deployed based on the user's profile. Some may have only Wi-Fi, others may have Wi-Fi along with a plug-in cellular card and a tailored data plan from a mobile carrier. "We profiled the [job] positions within EDC, so depending on your profile, this determines the mobile computing requirements," McNulty says.

Bell Mobility offered a cellular card, the Novatel Wireless Merlin X720 ExpressCard, bundled with client software from its partner Trellia Networks, for automating and managing all forms of laptop network access, including dial-up, Ethernet, wireless LAN (WLAN) and 3G cellular. One control: The cellular cards are enabled only for use within Canada, not overseas.

See Wireless, page 22

Wireless
continued from page 19

Another control: The Trellia software integrates a range of the most popular VPN clients, from such vendors as Check Point Software, Cisco, Nortel and SonicWall. "One struggle was identifying which networks belonged to EDC, which then determines if the VPN client needed to be activated. Trellia does this smoothly; it just figures it out," Doyle says. "It allows us to maintain our security posture."

With the Trellia Policy Manager application, IT staff can set connection policies that are enforced on the laptop automatically by the Trellia Mobility Client, without requiring decisions or actions by users. Trellia supplants the underlying proprietary connection managers, such as Intel PROSet Wireless or Microsoft Windows Zero Configuration, and controls the various hardware interfaces directly. For example, when a user is at an EDC office, Trellia policies can force the laptop to use the office WLAN, blocking use of the far more expensive cellular link.

Users can eject their laptop from a desktop expansion base at headquarters, shift to the corporate WLAN, shift again to a cellular connection when they leave a building, to a VPN connection via a Wi-Fi hot spot at a coffee shop, and then back to corporate WLAN at a remote office — all automatically and with all the appropriate safeguards enabled. "One goal was to take these decisions away from the client [the user] and make them happen automatically and seamlessly," Doyle says.

Ken Dulaney, Gartner's vice president of mobile computing, is sold on such products as Trellia (he's a Trellia user), Lenovo's ThinkVantage AccessConnections, and iPass' iPassConnect Mobility Manager. "Enterprises aren't sure they're looking for this [kind of capability]," he says. "They don't know how much it can benefit them. I'd say to every customer, 'you've got to have this.'"

Network World blogger Craig Mathias likes the emphasis Trellia places on automatically managing, for the enterprise, an array of complex, client-specific issues.

Step 4 — Pick client hardware and software that meets the user's requirements.

The project team short-listed seven laptop or tablet PCs for consideration, and gave user groups the chance to test-drive the equipment in a demo room, after which they filled out a written evaluation rating each package.

EDC decided on the HP Compaq 2710p notebook, which HP originally marketed as a tablet PC (the screen twists, converting into a tablet or a notebook form factor), with a "downgrade" from Windows Vista to Windows XP. "We had a lot of experience and reliability with XP," Doyle says.

The final configuration was a custom-build from HP to meet specific EDC requirements, such as 4GB of RAM. The notebook also uses HP Credential Manager for password management.

At the time, there was no option for a built-in cellular module, so EDC uses plug-in cards. Typically, each user also has built-in GPS, an encrypted USB stick and a Research In Motion BlackBerry smartphone or e-mail device.

The laptop software load also includes Polycom's PVX videoconferencing software, allowing point-to-point video sessions with another notebook user or a videoconferencing room in an office. In the future, EDC plans to support instant messaging, unified messaging software, softphones for notebook-based VoIP calls and other communications options.

The project team selected the software, based on criteria pulled from requirements set forth by users and tech support staff. The software had to integrate with EDC's infrastructure and fit with its strategic road map. The project team set up a similar kind of software test-drive with users for feedback and fine-tuning.

Step 5 — Train users, plan for support and evaluate.

EDC simplified deployment by bringing groups of users into three-hour training sessions with the notebooks, then releasing them to their desks, which had been outfitted with a notebook docking station instead of a desktop PC. Most of the work was done in group sessions in Ottawa, with EDC's corporate training team taking on this job.

Overall, the sessions went well, but McNulty says feedback from users showed the IT staff tried to pack too much into the training sessions. In the future, "we'll break that up into chunks," he says. EDC plans to use Web and video training for some of that, and to supplement the in-person sessions.

A related issue was including the tech support staff in the mobile deployment. "We outfitted our support staff with these same products, so they have the same equipment and software as the clients," Doyle says. "That's key." This group then was able to give informed, fast, and effective help to users with problems or questions.

In a recently completed survey, nearly all of the 95% of the newly mobile employees who responded reported improved productivity and efficiency as a result of the new platform. "This is a major shift for these people — from a desktop PC to new hardware, with video, access to folders on network drivers and so on," McNulty says.

Overall, the project so far has cost EDC about $1 million Canadian dollars (about US $811,000 at current exchange rates). The agency projects a net income improvement over four years in the "seven-digit range," McNulty says. ■

New HP division helps data centers go green

BY JON BRODKIN

Bill Kosik knows a thing or two about building efficient data centers. As managing principal of consultancy EYP Mission Critical Facilities in Chicago, he helped HP plan its global project to consolidate 85 data centers into six.

HP liked EYP's work so much that it decided to buy the consulting firm a year ago, transforming it into a new Critical Facilities Services division that helps clients plan the building of energy-efficient data centers or the retrofitting of existing ones. Financial institutions are particularly interested in reducing energy use, because data centers can use 30% of an organization's energy even while taking up just 5% of its square footage, Kosik says. Retrofitting existing data centers is often worthwhile but extremely difficult, he says. "It's expensive and you can't turn the thing off. You're basically doing open heart surgery on a patient that's running around the block," he adds.

Going after low-hanging fruit sometimes can have a big impact, however. Many data centers waste power simply by keeping the thermostat too low, Kosik says. "In traditional data centers, you walk into them and they're like refrigerators," he says. "That's really not the way to do it.

WATTS UP

A 1-megawatt data center's energy needs can reach $2 million a year, and some of the bigger Internet companies need data centers of 20 to 30 megawatts, according to HP.

If we raise that temperature five or 10 degrees, you could save easily close to 40% on power for your cooling systems. Climate has a huge impact on data centers."

Efficient power-distribution systems are vital as well. More than 10% of a power supply can dissipate while it travels from the edge of a building to its target inside the data center, Kosik says. "It's not sexy stuff, but it makes a big difference," he says. "Right now, there's huge momentum in the industry to push energy efficiency, but from a more pragmatic standpoint."

In many cases, retrofitting isn't feasible from a financial perspective, and it's better to build a data center from scratch. In addition to helping

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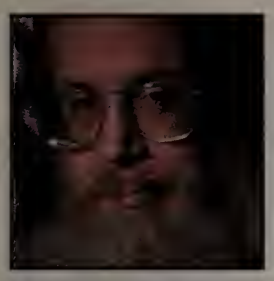
Kentucky judge seizes control of the Internet



NET INSIDER
Scott Bradner

Last September, Franklin County (Ky.) Circuit Judge Thomas Wingate decided that the entire, worldwide Internet is within the jurisdiction of the state of Kentucky.

There are many good legal arguments that show that the judge's conclusion is absurd, and those will be argued during the appeals process. For now, however, the judge's ruling — that the state of Kentucky can tell someone halfway around the world to stop using the Internet — stands. It does not take much imagination to see the level of chaos that this ruling could cause if it continues to be allowed to stand.

The case stems from Kentucky's attempt to control gambling over the Internet. Local gambling, such as on the Kentucky Derby, is just fine — I guess they have a funky sense of morals in Kentucky, where the same activity is promoted or damned depending on the venue. Judge Wingate ruled in September and reaffirmed in October that Internet gambling sites must block Kentucky's citizens from accessing them, and sites that don't comply will have to give up their domain names.

This decision pleased Kentucky Gov. Steve Beshear to no end, but did not please many others.

There are lots of things wrong with the judge's logic. Technically, it is quite hard for a Web site to do a reliable job of blocking access from a particular geographic area based on the IP address of the requesting computer. Some services let you get reasonably close, and some services, such as AOL, fail; about all the latter can figure out is which half of the country someone is in. Even if this technology were perfect and available at a reasonable cost, there still would be the problem of a Web-site operator even knowing that someplace thousands of miles away wanted to censor its citizens' Internet use.

The fundamental problems with the judge's decision, however, are jurisdiction and scaling. Under the U.S. Constitution, one state cannot tell citizens of another what they can do in their own state — yet that is just what the judge would be doing if he seized the domain names of Web sites offering services that are fully legal outside of Kentucky.

The biggest problem, however, is one of scaling. Chaos would reign if every local county judge had the authority to seize the domain names of Web sites that are doing something that might be seen as illegal in the county where the judge's courtroom is. A judge in a dry county in Texas could seize the domain names of all alcohol-related Web sites and all Web sites relating to sports sponsored by alcohol producers. A judge in Wisconsin could seize the domain names of anyone who sold or discussed margarine. A judge in Syria could seize the domain name of any Web site that was run by or supported Jews. A judge in one of the many Maryland counties where car sales are illegal on Sunday could require that all car-company Web sites be turned off on Sunday and could seize the domain names of sites that refused. One could go on, but you get the idea — if this decision stands, there are thousands of local laws that could be extended to the Internet.

The appeals process is under way, and the appeals court has halted any domain name seizures, at least for now.

I've not read many commentaries on this decision that suggest it can survive. Even Kentucky's attorney general has asked that his name be dropped from the case. But this kind of silliness should give anyone who cares about the Internet quite a scare.

Disclaimer: I do not know of any official courses on silliness at Harvard, but even if there were one, this example probably would be too esoteric for such a class. I also do not know of a university opinion on this example of Kentucky's hubris and myopia, so assume that the above one is mine.

Bradner is Harvard University's technology security officer. He can be reached at sob@sobco.com.

Communications personalities: *Vive la difference!*

EYE ON THE CARRIERS
Johna Till Johnson

One of my favorite advertising campaigns is the one from HSBC that spotlights how differently people can view the same things. You've probably seen it: Two photos side by side, each with a comment — then the same two photos, comments reversed.

Some of the examples are so good they're uncanny: a photo of a tent in the wilderness labeled "Hell," and a cluster of swimsuit-wearing, cocktail-drinking partyers on the deck of a cruise ship labeled "Holiday." My perspective is exactly the opposite — the tent's the holiday. But then my vacations tend to involve cold, wet and strenuous physical exercise. (Hey, it makes the beer taste better.)

Anyway, the point's a good one — people aren't all alike. That's something to keep in mind as you're fleshing out your unified communications road map — because accurately matching functionality to personality types is critical to the success of your UC strategy. As HSBC might put it: e-mail: love it/voice mail: hate it — and vice versa. Some things to think about:

- **Immediacy.** Texting (IM, SMS), phoning, and e-mail all feature different levels of immediacy, meaning how quickly (and informally) you can connect to the other person, and how fast you expect a response. Texting is the most immediate — people can interrupt each other during phone calls — but for some people, that's too intrusive. Phoning is next-most immediate, and e-mail is least immediate.
- **Intimacy.** Generally, anything written is far less intimate than anything spoken or visual — texting and e-mail are much less intimate than phone calls or videoconferences. The reason? Text lets you edit yourself, revealing only what you want to have the other party see. With phone calls and videoconferences (not to mention face-to-face meetings), your tone of voice, expression and body language convey 75% of the information, or so the sociologists tell us. And it's easy to delete a potentially offensive sentence from a text message or e-mail before hitting the send key — as most of us have discovered, it's not so easy to "unsay" an inadvertent comment.
- Detail. People don't usually pick up or remember the information of most communications transactions right away. For people who prefer a lot of detailed communication, e-mail is best — it can be reread and pondered at length.
- Interactivity. Texting, phone and videoconferencing are highly interactive — meaning that you're constantly responding to (and often interrupting) the other person. E-mail is more half-duplex — you make a statement, the other party listens, then responds.

The thing to remember is that people vary widely across all these dimensions. Some of that correlates with age (younger people, who tend to be impatient and less socially skilled, tend to like texting because it's low on intimacy but high on immediacy) and some with gender (women generally are more likely than men to prefer phone calls), but the biggest factor is individual personality.

The bottom line? Take the time to assess your users' communications personalities before you craft your unified communications strategy. Now if you'll excuse me, I have to go do some strenuous exercise in the cold and damp.

Johnson is president and senior founding partner at Nemertes Research, an independent technology research firm. She can be reached at johna@nemertes.com.

Big savings with MAID 2.0 storage

BY BOB WOOLERY

For years companies have been deploying Massive Arrays of Idle Disks to reduce data-storage energy costs. The spin/no spin approach reduces energy consumption by putting power-hungry disk drives to sleep when they are not being used.

Early versions of MAID products — whether you think of them as first-generation MAID, MAID 1.0 or "old MAID" — have two shortcomings, however. First, spun-down drives typically take several minutes to spin back up: That's an unacceptable length of time and results in an unacceptable loss of performance for most applications. Second, most MAID 1.0 providers support only a limited percentage of active disks at any given time — as few as 25%.

MAID 2.0 broadens energy-saving options by adding multiple modes — instead of the binary on/off approach of MAID 1.0 — that are designed to accommodate different types of data. For instance, files such as financial records and medical test results need to be stored for several years or longer, but their data doesn't change. An X-ray, for example, needs to be stored, but it typically is not accessed frequently, if at all; and it is never altered. Such fixed-content data is ideally suited for MAID 2.0 applications.

Disk drives consume 80% of the power used in data storage and, while both MAID 1.0 and MAID 2.0 help conserve power, MAID 1.0 has such a negative effect on application performance it is not practical in most circumstances. The goal of MAID 2.0 is to deliver energy savings to the broadest set of applications without affecting application performance.

MAID 2.0 products achieve this goal by operating at user-defined and application-dependent energy-saving levels. A Level 1 setting signifies the fastest response time that still makes energy savings possible. This would be ideal for such organizations as hospitals, which need fast access to patient X-rays or records, but can save energy during idle periods.

Many people incorrectly believe that 24/7 operations' data centers never experience idle time. However, according to a recent study by researchers at the University of California, Santa Cruz, 90% of all stored data was not touched during a three-month time frame. Being open for business doesn't mean that all of an organization's storage disks need to be spinning at full speed.

A typical user might elect to put his storage devices into Level 1 MAID 2.0 after 15 minutes of inactivity. At that point, the read/write heads will be unloaded automatically. This simple step, transparent to the user, reduces air resistance and makes for an energy savings of approximately 20%. It maintains a sub-second response time without a power spike for the first I/O request. All subsequent I/O requests are handled instantaneously.

Level 2 MAID 2.0, often implemented after 30 minutes of disk-drive inactivity, reduces the speed of the drive platters by 50%. The first I/O request will be handled within 15 seconds, and subsequent requests will be handled instantaneously. This level achieves an energy savings of at least 40%, and generally is used for data that is occasionally — but not frequently — accessed, such as archived word-processor files, spreadsheets and presentations.

Level 3 MAID 2.0 places a drive into a light sleep, yet able to respond to an initial I/O request within 30 seconds. As with the other MAID 2.0 levels, subsequent I/O requests are handled instantaneously. Many users deploy Level 3 MAID 2.0 after 60 minutes of inactivity. This enables energy savings of 60% or more, and is ideal for long-term archiving of such fixed-content data as e-mails, financial records and medical tests.

Obviously the MAID 2.0 approach is more flexible and efficient than the MAID 1.0 approach, which spins a drive at 100% or 0%, offers no flexibility in energy savings and reduces application performance. The energy savings enabled by MAID 2.0 solutions are impressive and substantial, but what is even more remarkable is that many non-MAID 2.0 storage systems take 60 to 120 seconds to respond to an I/O request without achieving any energy savings at all.

MAID 2.0 products reduce this response time by as much as 75% and enable substantial energy and cost savings. MAID 2.0 is the energy-efficient data-storage technology with the widest utility. It does not compromise performance, it is easy to implement and it addresses the core cost issue — disk-drive energy use. MAID 2.0 users receive energy savings of 20% to 60% or more and, in many cases, enjoy even better performance than alternatives that are not energy-efficient.

Woolery is senior vice president of marketing at Nexsan.

IT Asked and Answered

By Steve Blass

What do you use marker interface for? It doesn't contain any methods or method declarations. What's the logic behind importing these interfaces like serializable, clonable.

Marker interfaces are used to 'mark' an implementing class as having the capability indicated by the marker interface and, even though the interface does not define any methods to be implemented by the class being marked, the declaration is required to enable the capability.

Declaring that your class implements the marker interface is how you indicate that your software wants to make use of some built-in functionality that is enabled simply by declaring that your class implements the interface, even though you don't have to write any code to implement any methods. In the most recent versions of the Java language it is recommended to use annotations rather than marker interfaces to indicate that classes have particular semantics like serializable and clonable.

To ask your own question, go to www.nwdocfinder.com/7728.

GEARHEAD

Mark Gibbs

Thumbs up for Android and the G1

I have seen the future and it is Android-shaped. As much as I have lusted after an iPhone (my current plan would have been too expensive to dump) and longed to leave the clutches of T-Mobile, having had the Android-based T-Mobile G1 in my sweaty hands for a couple of weeks has changed my mind about both staying with T-Mobile and wanting an iPhone.

Android, as you know, is an open source software platform for such devices as cell phones, and is the product of the Open Handset Alliance, along with huge initial input from Google.

To say that the project is ambitious is an understatement. As the announcement of the Android source code (Oct. 21, 2008) proclaimed: "Interested in working on a speech-recognition library? Looking to do some research on virtual machines? Need an out-of-the-box embedded Linux solution? All of these pieces are available, right now, as part of the Android Open Source Project, along with graphics libraries, media codecs, and ... development tools." On the day following that announcement the G1 became available.

There's no doubt that the G1 is well specified. It boasts quad-band GSM/GPRS/EDGE, along with GPS, assisted GPS (cell tower triangulation), Wi-Fi, Bluetooth, accelerometer and compass.

The G1 is as intuitive as the iPhone, but not quite as physically pleasing; however, it's a better product for four main reasons.

First, while the G1's core feature set is very similar to that of the iPhone — the G1 has a terrific touch-sensitive HVGA LCD color display, good sound quality and a terrific, well-organized and responsive user interface with sophisticated graphics — it also has a swivel-away screen that reveals a keyboard that makes responding to e-mail, texting, instant messaging and Web-browsing far more practical than on the iPhone.

Second, the G1 is open in a way that the iPhone definitely isn't. There is no "backdoor" allowing the remote removal of applications, as there is on the iPhone, and there's a slew of applications available for the G1 (most of them free) that don't have to be preapproved by T-Mobile.

Third, the G1's integration with Google search, Gmail, Google Maps and Google Calendar is beyond excellent.

Fourth, the G1 has decent battery life for a device that can do so much. Switch off GPS, Wi-Fi and Bluetooth, and you easily can get 12 hours of moderate use and recharging is fast.

Now the downsides. I have a few complaints about the G1, and a big one is the built-in 3.2-megapixel color camera: The lens is awful, there's no zoom or flash, and it doesn't shoot video.

Next, the browser. It works very well, but its lack of support for Flash and its reliance on Google Docs to translate attachments into HTML (which doesn't work for Word documents) are disappointing.

The G1's hands-free sound quality is also surprisingly poor; and finally — and it may be because my test unit has been around the block a few times, the swivel-out display makes slight, mechanical creaking sounds during calls if you press your ear too heavily on it.

All of that not withstanding, I really like this phone. Android makes it work amazingly well, there are loads of great applications available, and the open platform allows for all sorts of interesting developments. To become a corporate platform, the G1 needs such enterprise features as VPN, Microsoft Exchange and BlackBerry Enterprise Server support; but I'm expecting the market to create these in double-quick time.

So, will I stick with T-Mobile so I can have a G1? The chances look surprisingly good. I give the G1 5 out of 5.

In Ventura, Calif., Gibbs thinks that the "G" in G1 just might stand for Gearhead. Tell gearhead@gibbs.com if the G1 hits the spot.

COOLTOOLS

Keith Shaw

Copy (or erase) lots of data to USB, fast

The scoop: USB Transfer Express, by Hamilton Electronics, about $900.

What it is: This rectangular device looks like an old-school cable set-top box or video game console, with 15 USB slots arranged in three rows. With these 15 slots acting as "target" slots for USB Flash drives, a 16th slot acts as the "source" slot. The device lets you copy, erase or transfer data to and from as many as 15 USB drives (you can go as high as 30 drives by daisy-chaining a second device) at once.

Why it's cool: Groups and departments that have to place the same data on multiple USB drives (sales and marketing material, data sheets and so forth) usually have to do so on a tedious one-to-one basis. With the Transfer Express, they can put all their material on one drive, then copy it to 15 drives with the press of a button, saving time and effort.

The device goes beyond that, however, with some additional functions. The Target-to-Source button lets you collect data from multiple USB drives and copy them to one source drive. This would be great in the education market, for example, where a class of 30 students who complete their assignments on USB drives can hand in their work, and the teacher can put it all onto one drive to look at later. Because larger, USB-based hard drives can be used with this device (not just USB sticks), the target-to-source function can be used for backup.

The system is compatible with some USB-enabled MP3 and MP4 media players (sorry, not the iPod), so you also could copy media files directly onto those drives. In addition, if you have a USB-enabled card reader, you can copy to or from memory cards, such as SD, MMC and Compact Flash.

Hamilton Electronics' USB Transfer Express allows you to copy material from one drive to 15 others with a press of a button.

Transfer Express was very easy to use. Its glowing red and green LEDs made it easy to tell when copying or erasing was complete.

Some caveats: Reading the instructions is very important here: You don't want to push the wrong button and inadvertently erase data. In addition, materials that are copied need to be placed into a specifically named Source or Target folder on the drive, so users still may have to insert the drives to move around data (changing the name of the folder, for example) after the copying has occurred. USB 2.0 support is required, so some older Flash drives may not work correctly. Finally, at $900, the device is too expensive for casual users.

Grade: ★★★★ (out of five)

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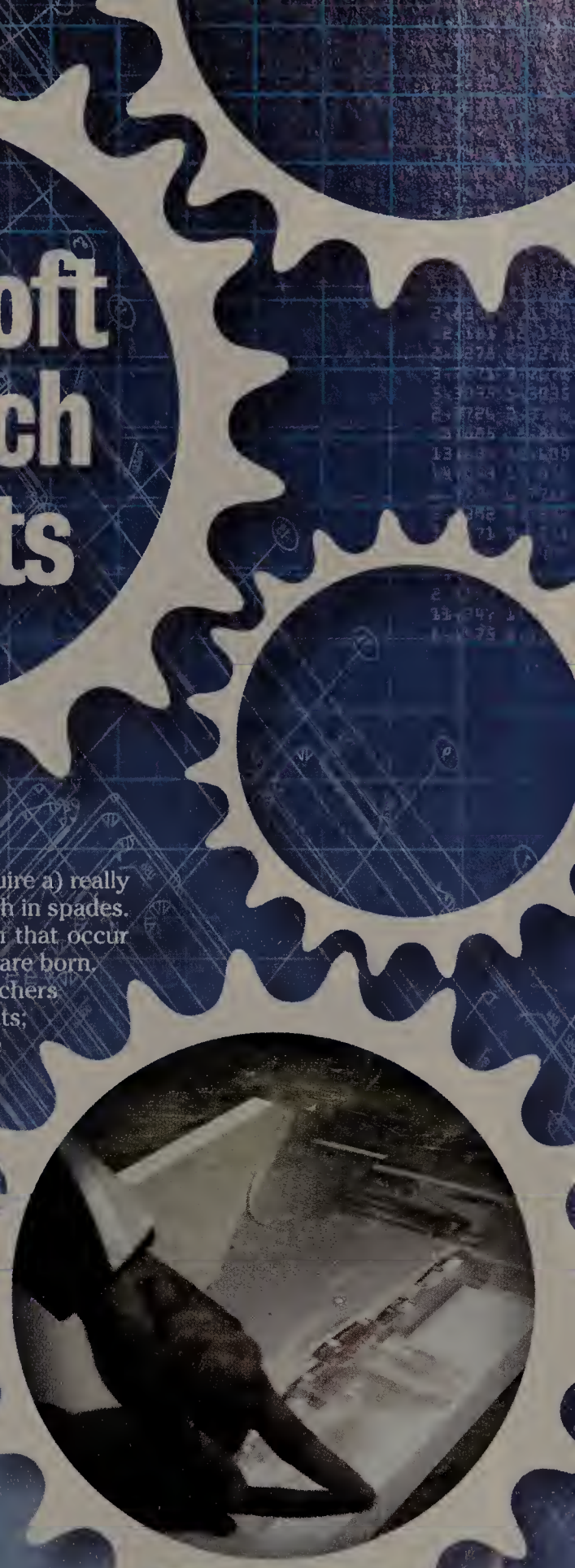
10 Microsoft research projects

STORY AND PHOTOS BY JOHN BRANDON

Innovation is not just about cool new products. In technology, the best ideas require a) really smart people and b) lots of funding. For the past 33 years, Microsoft has had both in spades. The precursor to any product release, however, is the research and innovation that occur before the first shipment to customers — that "pre-pre-alpha" stage where ideas are born.

In a recent two-day visit to Microsoft corporate headquarters, we met with researchers working on new projects. A few of these already have resulted in shipping products; others may never see the light of day — they are meant as a proof of concept. Some could change how we do computing altogether. All of them nevertheless are driven by bright thinkers who are working to solve real-world technical problems.



1

Code name: Eagle 1
Key contributor: Dermot Barry, public safety managing director
What it is: A visualization and mapping tool for disaster-recovery teams
Ship date: 2009

In a major disaster, fire and police departments, local government, and other public safety officials coordinate a search and rescue mission for survivors. Some of the techniques they use, such as closing roads and creating a chain of command, are tried-and-true measures. One of their challenges, however, is coordinating the IT infrastructure necessary for collaboration and communication. In most cases — even as recently as Hurricane Ike — coordination has been a major challenge, especially when that infrastructure has been damaged or is inoperable. Barry is championing a new project called Eagle 1, which is a data visualization and mapping tool.

"After any major disaster, during the debrief, the first thing that always comes up is the communication and collaboration," Barry says. "Trying to get real-time information from all of the agencies involved to make life-saving decisions, the more quality information you can have, the better. There's a difference between information you can use and just raw data. The physical side is done to death, the hands-on side is mastered. The technology has been too slick and high-tech, but it has not been able to present the information in a form you can react to."

Eagle 1 pulls information from multiple databases and uses geospacial mapping technology to create a real-time interactive map that shows, for example, all the schools, military bases and hospitals in the affected area. In addition, it shows how many people are in the hospitals, current evacuation models, and casualties or danger zones— even a plume model that shows where a gas leak is heading.

Virtual Earth is used to display all this data on the map, but the key is how Eagle 1 pulls data from many sources (for example, from Oracle and SAP databases) and presents the results on one screen that runs even on a Microsoft Surface table. Configuring the data extractions probably will involve a team of Microsoft disaster specialists, Barry adds.

2

Code name: Surface
Key contributor: Matt Champagne, director of product management
What it is: A multitouch table intended for social interaction
Ship date: Now

Microsoft's Surface is becoming a viable product that can be extended with such customized software as photo viewers and extra games. The device, which is about the size of a card table, is not sold directly to consumers, but to such companies as AT&T and Sheraton Hotels, which place it in their lobby or use it as an attention-getting conversation starter.

These partners can request custom interfaces and programs, or develop their own. Surface is made of a hard acrylic material that can withstand a lot of abuse. At a Harrah's iBar in Las Vegas, for example, people spill drinks and food on it all evening. As many as 52 people could crowd around a Surface table and control their corner of the interface, although it's usually a two- or four-user experience.

"It was interesting to start with a project in an incubation phase and scale it up and out as a viable product," Champagne says. "The application launcher comes with choices, content the customer wants to load. Collaboration is a big part; Surface has object recognition — it is meant to interact with physical objects. There are infrared cameras that look at the surface. We have an optical tagging technology where you can tag items."

At AT&T, you can place a phone on the table and the features of the phone will appear — more information than the cellular provider could ever list on an in-store sign, he says. At Sheraton, you can call up a virtual concierge and see maps of the area with theater or restaurant suggestions. Microsoft also is targeting such retailers as Best Buy. The basic Surface product retails for $12,500, but there's a volume discount for mass deployment.

3

Code name: Pictionaire
Key contributor: Andy Wilson, senior researcher
What it is: Software that runs on an interactive table for group collaboration
Ship date: TBD

Andy Wilson's lab, located in Building 99 on the Redmond campus, is low-lit and spacious, with several glowing monitors scattered about the room. There's an early prototype of Microsoft Surface in one corner, an LCD monitor set at a 30-degree angle in another. Near the back of the room, an orb sits idly on a podium, a precursor to the Microsoft Sphere project. The most striking device, however, is a large, glowing, 4-by-6-foot table.

"I can start typing on this keyboard," Wilson says, as he drops a keyboard into the table surface. Icons suddenly appear next to the keyboard like something from a sci-fi movie.

Wilson drops another keyboard and a mouse onto the surface, and icons appear for those devices. Next, he grabs a small whiteboard and starts making notations. A camera records his sketches, and the image appears on the table surface — which he can further manipulate. Like the Microsoft Surface, this new table — which runs software called Pictionare — allows him to type e-mails, play video and music. "I can even capture the entire table [as a screenshot]," he says.

What's most striking about Pictionaire is that it allows unprecedented collaboration. In a meeting, employees could gather around the table, each with a keyboard and mouse, and engage in a project with images, text, video and other objects. The Surface table allows as many as 52 people to participate simultaneously, but that's not a practical limit: Wilson says Pictionaire could support at least that many concurrently. It has a multitouch interface as well, so you can zoom in on objects and move them around. One can imagine several teams using Pictionaire surfaces at different locations as well, with video collaboration. The Pictionaire demo uses Windows Vista, but it's not hard to imagine it running Linux in a virtual window.

See Microsoft, page 30

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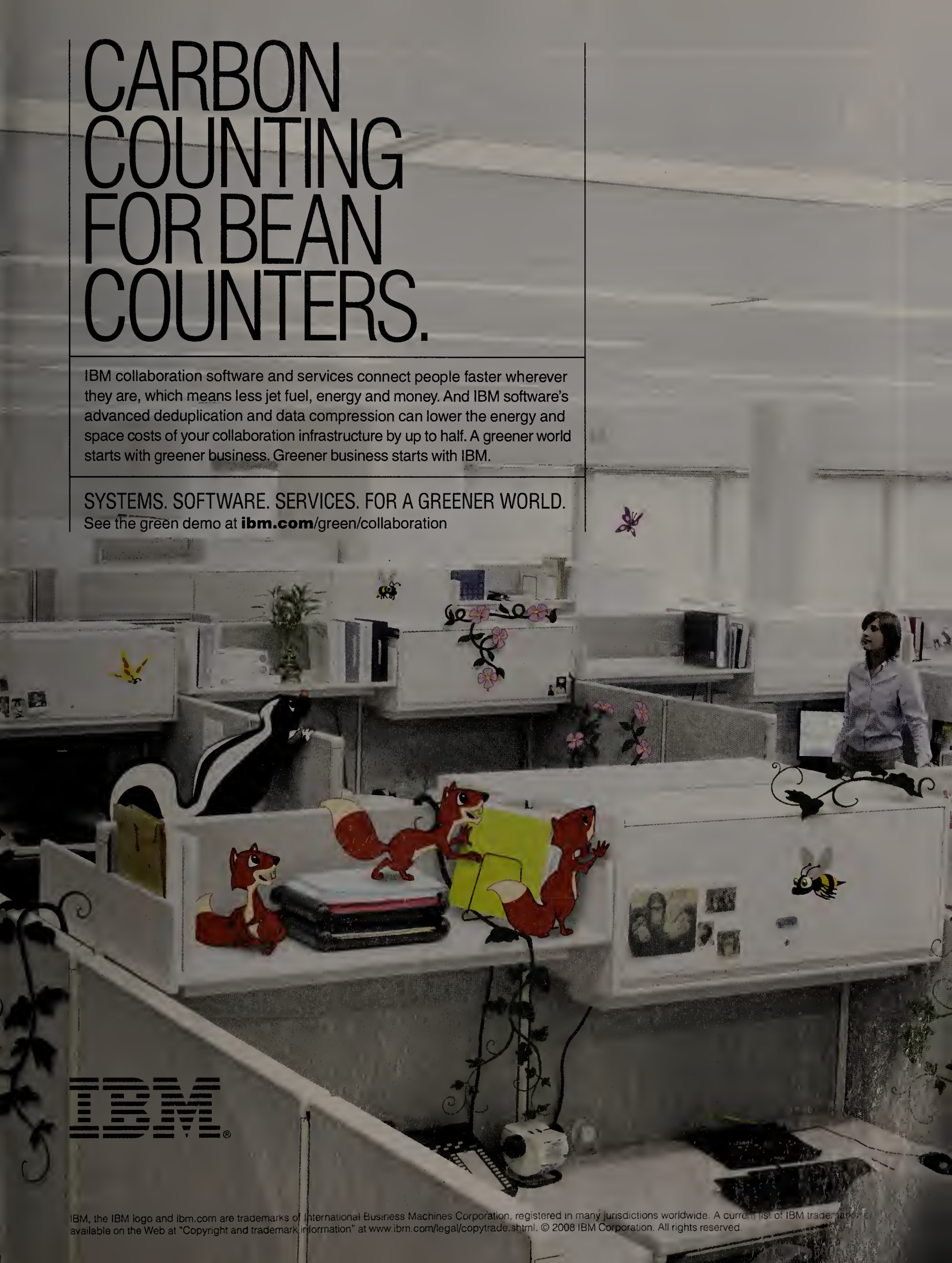


IBM

4

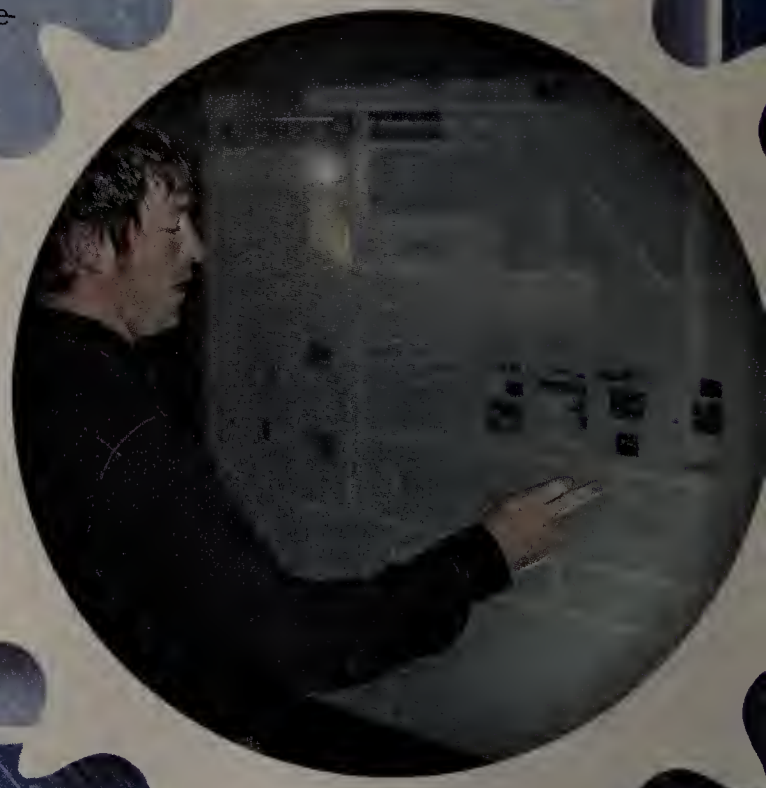
Code name: Touch Wall
Key contributor: Ian Sands, director of envisioning
What it is: A hardware and software interface with multitouch control for collaboration
Ship date: TBD

Like Andy Wilson's Pictionaire project, the Touch Wall — which Bill Gates demonstrated during his keynote at CES 2008 — is a new, software-driven computing paradigm. Partly a multitouch hardware interface (that is, a wall-sized version of the iPhone) it's primarily a new software interface that works remarkably like the computer in the movie "Minority Report" that Tom Cruise controls with his hands. Sands began working on interactive television systems 13 years ago and developed early prototypes in the mid-90s. He also worked on the MSNBC and Slate Magazine launches, working on interactive media.

"We needed to come up with something beyond the typical PowerPoint and whiteboard idea — things like video and interactive media to demonstrate rather than tell what the future might be like," Sands says. "We want to put out plausible scenarios that leverage today's technology."

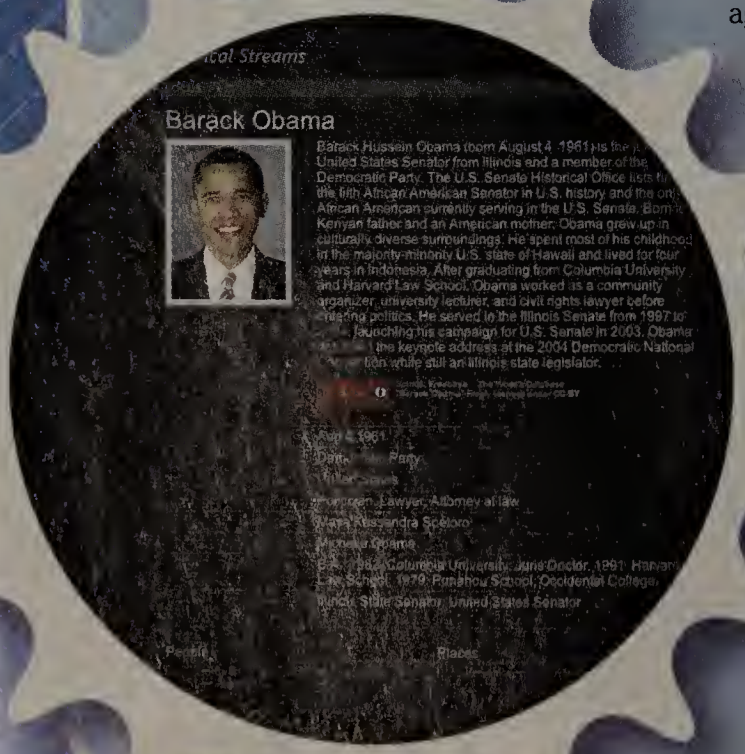
The Touch Wall is more like an operating system than software. There is a large, white background with several objects on the screen: documents, video, music, slide shows. The user can zoom in on the interface by flicking out with two hands, or play a video or slide show by clicking with a finger. Most impressively, users can mix and match media on the same large-screen display, playing a video in one corner and holding a video chat with someone in another corner. As with Surface, numerous people can use the Touch Wall simultaneously and interact with people using a Touch Wall somewhere else.

Touch Wall is primarily a user interface, not an operating system; it runs on a standard PC in Windows Vista using an LCD rear projector and a two-way glass panel. Sensors attached to its side read movements and feed them to the interface, which is called Plex. As with the Surface table, however, it's possible the Touch Wall will be developed into a standalone product that could be used for meetings and sales presentations — or one day in homes as a natural interface.



5

Code name: Political Streams
Key contributor: Alex Daley, group product manager, Microsoft Live Labs
What is it: A comparison engine for seeing trends in blogs and news media reports
Ship date: October



Some ideas are born of necessity. Political Streams, which became available in October, provides a big-picture view of political news and blog chatter. It's essentially a trend aggregator like Google Trends (*www.google.com/trends*) or Yahoo Buzz (*www.buzz.yahoo.com*), except that it crawls the Web for actual content, rather than just aggregating search terms. Daley showed a demo where news reports and blog posts about [former Republican vice-presidential candidate] Sarah Palin appeared on a graph comparing them to reports about [now President-elect] Barack Obama.

"This is all in real-time, and we can effectively filter across various industries — we are starting with politics," Daley says. "We can see the relationship between political reports. We use a technique called entity extraction, a machine-learning technique for classifying documents and text, such as this is a name, this is a place, or a recipe, or a review or a product manual. We extract the core data and draw relationships."

Live Labs, where Daley works, is a Microsoft "seed farm," consisting of small five-to-eight-person teams who develop innovative services and Web sites, such as PhotoSynth (*www.photosynth.net*). The teams' small size is intentional: Live Labs' goal is to germinate ideas, some of which may not become actual products. In fact, the PhotoSynth project itself — which is a way to see 360-degree views of a real-world location — was not a success at first because Live Labs found that people would take the same photos of buildings and sites. Today, PhotoSynth has become more of a social-networking site — people decide together to "stitch together" a scene more intentionally.

See Microsoft, page 32

6

Code name: LucidTouch
Key contributor: Patrick Baudisch, research scientist
What it is: A technology that allows a user to reach behind the screen to control a mobile device
Ship date: TBD

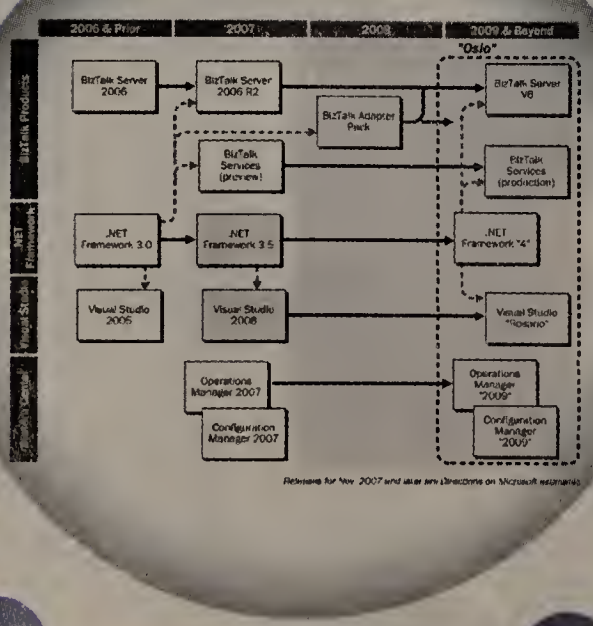
Ask anyone with big hands whether they like the Apple iPhone, and they probably will respond with a resounding "No!" The reason? Controlling the interface on the iPhone's 2-by-3-inch screen requires fairly small fingers. A person whose fingers are too big probably will make frequent errors. Microsoft's LucidTouch V2 technology seeks to solve this problem. It's an early research project that seems like a head-scratcher at first: A device with a 2-by-2-inch screen that's about as thick as a credit card allows you to "reach behind" the screen to make selections. Either a small representation of your fingers shows up on the screen, or a red dot that shows your fingertips.

"A touchscreen device is governed by the size of your fingers," says Baudisch, who studied human interfaces in Germany before coming to Microsoft. "If you look at home automation systems, they are targeted to a bigger screen size. We're asking what happens in a few years when a touchscreen is embedded into a watch? It turns out that touchscreens don't do well at these sizes. Since it's difficult to make your fingers transparent, why not make the device transparent?"

The project is reminiscent of several products Nokia tried a few years ago, where a very small interface was embedded in a locket or other jewelry; these were still difficult to use, however. LucidTouch could be used to power very small gaming devices or cell phones.

7

Code name: Oslo
Key contributor: Burley Kawasaki, director of the Connected Systems Division
What it is: Technology that allows team members to use modeling during the entire software-development life cycle
Ship date: 2009



In the early days of computing, a model — for example, a project organizational chart or the development plan for enterprise software — was a static document built in Microsoft Excel. The problem: In modern software development, models have to become living documents that many people can access, including business analysts, executives, quality assurance testers and project managers. The Oslo project, named after the capital city of Norway, is a framework that helps all contributors — both technical and nontechnical — access data models in a repository.

"Modeling is something that Bill Gates has talked about as a future trend — it plays an important role in the application life cycle," Kawasaki says. "One project that is part of that effort is Oslo. It contributes three things. One is a repository where you can change definitions of models from developers and architects all the way to data-center mapping. Secondly, you need a way to describe the models, so Oslo has a new declarative language. Third, there are visual tools, especially for the nontechnical user.

Oslo is like the SharePoint of application-development modeling. It breaks out of the traditional app development process where models are used only during development workflows, and helps contributors see data models as they change and evolve. It also addresses the siloed approach so common in the modern development process.

See Microsoft, page 34

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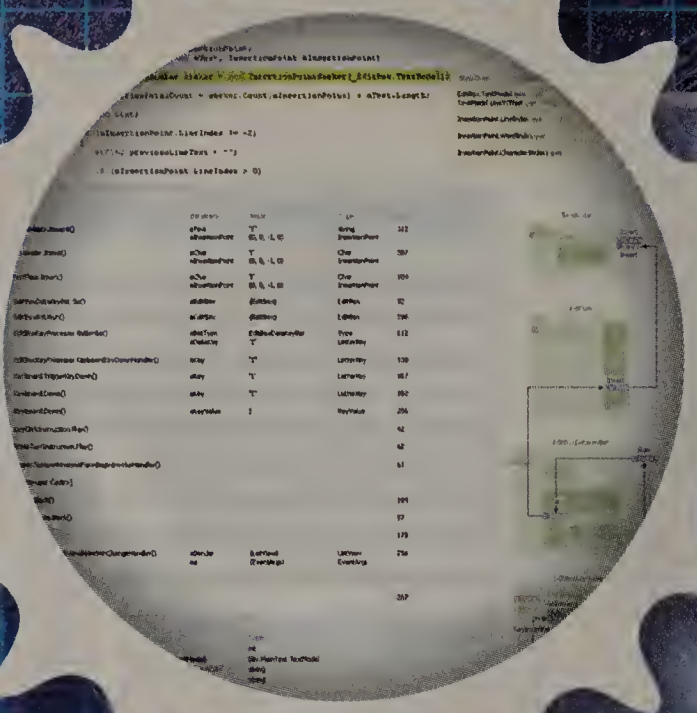

8

Code name: Visual Studio 2010
Key contributor: Norman Guadagno, director of product management
What it is: A major upgrade to the Visual Studio development platform
Ship date: TBD

Visual Studio is the staple of most Microsoft-centric development shops, and the next release (which probably will ship next year) will focus on new collaborative tools, direct access to the Oslo repository for data modeling and an update to Version 4 of .Net. One of the most compelling features is the brand new Architecture Explorer, which allows development teams to see a model of the existing development framework and find existing code assets that are not well categorized. Other new features include support for the Unified Modeling Language and a debugging tool that finds non-reproducible bugs by automatically creating data sets.

9

Code name: BlueTrack
Key contributor: Mark DePue, platform engineering manager
What it is: A mouse technology that uses a brighter, wider laser than conventional optics
Ship date: Now

BlueTrack is dramatic proof that laser technology is advancing fast. The Microsoft Explorer 1362 mouse (and Explorer Mini 1363) use the newly invented BlueTrack technology that works on a variety of rough surfaces. I tested the mouse on metal, wood, and tile — it worked perfectly, while a "last gen" laser mouse from Microsoft failed even to move the cursor. BlueTrack captures 8,000 images per second, casts a much wider and brighter beam, and — most importantly — reads data using a high-contrast sensor. For those who need mouse precision anywhere, the 1362 model captures data at 4000DPI.

10

Code name: Robotic Receptionist
Key contributor: Craig Mundie, chief research and strategy officer
What it is: A robot receptionist
Ship date: TBD

Here's a project I can relate to, having found myself lost and running late for meetings when I visited Microsoft in mid-September: The campus consists of more than 100 buildings spread across a wide swatch of Redmond and the surrounding area. Although this project is so new that the only information available about it comes from a keynote speech by Craig Mundie at the recent EmTech08 Emerging Technologies Conference (*www.technologyreview.com/emtech*), it's clearly a sign of how computer technology is evolving: Mundie said that natural interfaces equipped with voice and facial-recognition features will become part of our daily lives over the next ten years and will not require any hands-on input from the user.

The robotic receptionist — which will be used at Microsoft headquarters, probably beginning next year — will use GPS tracking data to provide information on shuttle routes to help visitors get around campus. The receptionist even will be able to identify visitors based on what they are wearing.

Brandon is a freelance writer. He can be reached at johnmbrandon@gmail.com.

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Green
continued from page 22

HP plan two new U.S.-based data centers as part of the 85-to-6 consolidation, EYP has provided consulting services to many financial institutions, Internet and software companies, and high-performance computing centers worldwide.

Many data centers are burdened with out-of-date servers, power supplies and building designs, says Mark Linesch, vice president of marketing for an HP software division that focuses on managing and automating the use of servers and storage. "You could walk across a data center and see half-empty racks, and yet you're out of power," he says.

Besides using old equipment, data centers often waste energy by overprovisioning power, giving a particular system more electricity than it really needs, Linesch says.

HP this month announced new technologies that measure and control power and cooling systems while placing limits on power used. The idea is to identify how much power is needed to run each server and set limits based on actual use.

More intelligent use of water for cooling systems also is important, Kosik says. Getting enough water from public sources is challenging for some large data centers, so they build their own wells. "We're working on projects lately where they have the power, but they don't have the water," he says. "We're looking at n-site wells and running new water and sanitary lines that are basically big enough for a small city."

EYP has about 400 employees, including about 50 consultants and 250 people in design and engineering, Kosik says. Buying EYP was a natural choice for HP, Linesch says. The new division's consultants can provide a comprehensive assessment of a customer's data center, identifying areas where money can be saved by being more efficient. HP then comes in with equipment, infrastructure designs and data center management software to help eliminate problem areas, he says.

Data centers can save hundreds of thousands of dollars, sometimes even millions, by using more efficient servers and power supplies, and by not overprovisioning power to each server, Linesch says.

The U.S. Environmental Protection Agency is planning to develop an Energy Star rating for data centers, but a lack of a real benchmarks today makes it hard for data center operators to judge their level of efficiency, Kosik says. "Utilization of power is probably worse than a lot of people think." ■

Jobs
continued from page 16

engineers and systems administrators experienced 11.41% and 7.63% decreases respectively. The number of IT-related résumés posted online dropped by more than 2% during the same time, Beyond.com notes.

"The number of open jobs in IT has fallen substantially year over year in key geographies. For instance, we've noticed a 25% decline in open positions in New York and 30% fewer available jobs in Silicon Valley," says Tom Silver, senior vice president and chief marketing officer at technology jobs site Dice.com. "IT had been relatively steady most of the summer through late September, but there has been a significant drop-off in October and November. For the near term, the IT job market has slowed, no doubt."

As recently as mid-October, the American Electronics Association trade group reported that the pace of high-tech job growth slowed to 1.3% between January and July 2008. Then, in mid-November global outplacement consultancy Challenger, Gray & Christmas reported that the economic downturn had reached the tech sector in no uncertain terms: The number of jobs cut by Oct. 31 in the telecommunications, electronics and computer industries totaled 140,422, a 31% increase over the 107,295 tech-sector jobs cut in all of 2007. The firm reported that another 19,779 cuts have been made since the start of the fourth quarter. "In addition to Sun's announcement, Applied Materials and National Semiconductor have announced job cuts in November. By the end of the year, we may also see cuts from Cisco, Qualcomm and Nokia, all of which are reporting falling sales amid the weakening economy," said CEO John Challenger in a statement.

Challenger, Gray predicts the job cuts in 2008 could reach 180,000, which would be the largest annual total since 2003, when technology firms announced 228,325 positions lost.

"Tech bottomed out in 2003 and when it came back, it was at a much slower and more steady rate," Dice.com's Silver says. "In the past, the tech sector led the economic downturn. Now tech is trailing behind other segments."

The outlook is at best cautiously optimistic and at worst, bleak for the coming year. "The last time the tech industry experienced job losses, it was a correction of the market; tons of money was poured into tech and when that dried up, it took the industry 18 months to figure out what to do next," says Michael Kirven, co-founder of high-tech staffing firm Blue Wolf. "Now the downturn is led by the financial markets and in high-tech, we are fairly confident we won't see the same impact as we did earlier this decade."

Others appear to be bracing for another lean year, as fewer positions become available, less money is dedicated to IT budgets and high-tech compensation starts to shrink.

CDW, a provider of technology products and services for business, government and education, reported that among 1,058 IT decision-makers, 41% expect cost-cutting and management to be the biggest priority for 2009. Of that same survey group, 57% reported the economy as the biggest obstacle to growth in 2009, a 16 percentage-point increase over 2008. About one-quarter listed cash flow or access to finances as a hurdle for the coming months, and 19% cited internal operational costs.

"A lot of small businesses today need access to finances to fund payroll, and the lack of access to that is a scary proposition for many in IT for 2009, considering the financial-sector meltdown," says Mark Gambill, chief marketing officer at CDW. "There are areas of technology that must continue to be invested in, such as security, but the market has acknowledged that technology investments will have to be intelligent and targeted going forward."

The hold-off on investments in technology not only indicates fewer new positions but also marks a trend toward lower compensation for existing jobs. According to the Yoh Index of Technology Wages, compensation for high-tech positions in the third quarter shrank by more than 6% from the same period last year. ■

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BACKSPIN
Mark Gibbs

Tough times and risk management, Part 2

Two weeks ago I promised to continue with my "tough times" rant, but last week I diverted to award the Gibbs Golden Turkey Award to American Express (www.nwdocfinder.com/7621). With Thanksgiving now behind us, however, let us forget our recent Bacchanalian revelries and forge ahead.

In Part 1 I discussed the need for a risk-assessment approach to IT management overall, not just to security. Reader Scott Crawford commented: "High time someone carved out the same systematic approach to IT risk that we have almost taken for granted in other aspects of IT management!"

Scott and I talked on the phone (if you write, include your number and I well may call), and he was adamant that the risk-assessment-based approach is so neglected as to be almost a lost art.

The problem is that this approach requires a willingness to allocate resources strategically; that in turn means you will knowingly neglect investing in the low-value areas of your network should disaster strike.

As I suggested in Part 1, this leads to some interesting political issues, because in most organizations, power — the driving force of politics — is vested in groups and individuals perceived as being the most influential. That perception usually has less to do with budget size or revenue potential than with who controls the flow of information.

Who really controls the flow of information? You do! You are the masters of the universe because there is no such thing as business without IT.

So, here's the thing: You, my friend, are going to meet some serious political resistance when you tell the manager of widget production that — as much as you would like to specify, identify, implement, configure and run his crucially needed restroom-cleaning management system — there isn't enough money to do that. When you tell him that upgrading the stock-management system — which, if it fails could bring the company to its financial knees — is more strategic than his project, he probably won't be happy and he'll flex his political muscle.

How are you going to respond? The worst thing you can do is to present a logical, dispassionate analysis based on facts and your years of experience — typically when power politics are involved, it isn't the cool, rational argument that wins but he who masters the sound bite.

So, you, O master of the universe, need to consolidate your position preemptively. If you fail to communicate your strategic vision when the heat is off, there's little chance for you to own the sound bite when political push comes to shove you.

You understand the IT needs of the organization, so you need to develop a clear, simply argued road map that allows you to allocate your budget according to strategic need rather than tactical want. Your job is to get the greatest bang for your IT budget buck. That means that you need to make decisions with the cooperation of the business units singly and collectively while the heat is off.

The beauty of building this kind of support before a political crisis is that you already will have gotten everyone to buy into the vision. So, when the tough decisions have to be made — say, spending a shrinking budget on addressing the risk to the integrity of stock control before investing in marketing's petty-cash management system — everyone already gets it and can agree that your vision is the way to go.

What you will have really done is to have evaluated the risk to IT's power and invested in defense before being attacked. Now that's what I call strategic risk management.

Gibbs has engineered a minimal-risk position in Ventura, Calif. Your analysis, strategic or otherwise, to backspin@gibbs.com.

NETBUZZ
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Paul McNamara

Taking aim at popcorn-popping 'Net ads

You might think the Better Business Bureau would have better business to attend to than trying to protect gullible Internet video watchers from the most preposterous fakeries perpetrated by viral marketers.

You'd be wrong.

You also might believe that four ringing cell phones can emit enough radiation to pop popcorn, in which case you'll be heartened to learn that the BBB has your back.

The National Advertising Division (NAD) of the Council of Better Business Bureaus said in a press release: "Advertising claims made in the context of viral videos produced to build interest in a product are subject to the same standards of truth and accuracy as advertisements published in traditional media."

The videos in question — there were different versions showing phones purportedly popping popcorn — caused quite a snap, crackle and pop when they made the rounds this summer, despite being quickly revealed as fakes.

End of story, right? Well, apparently NAD concluded that this commercial ruse warranted an "inquiry." And even though that inquiry was cut short by the fact that the advertiser stopped using the videos, there was an "opportunity offered by its review to provide guidance on principles that apply to advertising in nontraditional media."

Now, it's worth noting that NAD's judgment and the BBB's truth-in-advertising guidelines are just that — guidelines, initiated as part of a campaign designed to "foster truth and accuracy in national advertising through voluntary self-regulation." (Insert laugh track here.)

While few would argue that there shouldn't be standards of some kind, even in the make-believe world of advertising, we're talking about popping popcorn with cell phones here.

The press release concludes this way: "In nontraditional media, to the extent that advertising claims are communicated, advertisers are required to substantiate those claims with competent and reliable scientific evidence." ... On the Internet? Good luck with that one.

Recalling the indignity of being FMP'd

A recent column about corporate leaders tap-dancing around the word layoff hit uncomfortably close to home for a number of readers. Henry Farkas, a senior Unix administrator for a Connecticut-based health insurance behemoth, sends along these thoughts:

"I am an old IBMer. My division was sold to AT&T. Some years ago, AT&T enacted a series of layoffs. They didn't announce that they were going to do that in so many words, of course. Oh no. They announced that they were going to 'undertake a Force Management Plan.' Naturally, coming from a company that was once creative, I'd hoped for an announcement about some new innovation exploiting the conservation of linear momentum.

"Alas, the 'force' they were talking about was their 'workforce': They were going to force some 'resources' out of work. This immediately became known as being FMP'd. I survived several rounds, but was eventually FMP'd — on my wife's birthday.

"I'm employed again. I spent 11 months without a formal job, me, a well-respected performer (and, occasionally, an innovator) in what was once the most stable of fields; me, once the envy of most of my friends.

"I've been working for a Fortune 50 for over three years now. I like them, and they like me, but who knows how long any IT job will last?

"I hope I will never again have to come home and announce: 'Honey, I've been FMP'd!' And I probably won't. They'll pick a new euphemism."

Feel free to share. The address is buzz@nww.com.

SAL'S POINT OF VIEW

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And as the use of the domain name system to conduct attacks, steal data and interrupt business has increased, so has our need to monitor our communication channels. In this new environment, using standard command line tools to detect and fix critical problems, particularly in a crisis, is no longer an option. It's time consuming and costly. And frankly, that's time I don't have and a cost my firm can't afford. Like any smart IT guy I look for the most efficient solution to solve a problem. That's why I absolutely depend on DNSstuff to stay on top of my domain management responsibilities and fix a DNS problem fast in a crisis. DNSstuff is rock solid and reliable; an every day tool that I can't afford to be without. I can make DNS changes quickly, manage my domains with ease, and run a report in seconds. And DNSstuff's 24 hour alert service helps me detect critical changes before my users do.

Like it or not, businesses are more vulnerable than ever to DNS attacks. I sleep better at night knowing I can depend on DNSstuff to deal with it. That's my point of view.
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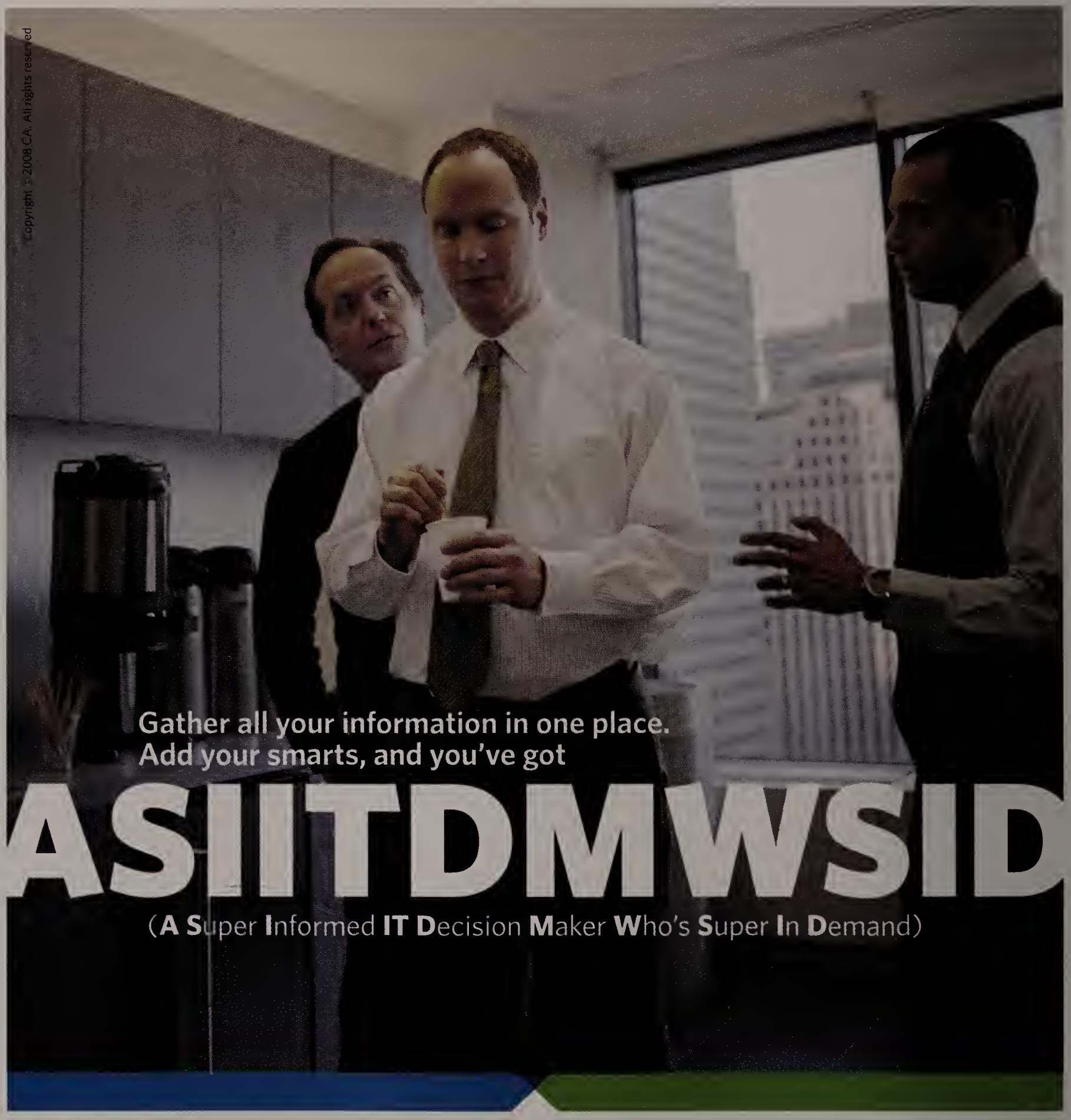

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